EFFECTIVENESS OF CHILD TO CHILD PROGRAMME ON ROADSAFETY MEASURES AMONG MIDDLE SCHOOL CHILDREN IN SELECTED SCHOOL AT KANYAKUMARI DISTRICT

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY CHENNAI, IN PARTIAL FULFILMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

APRIL 2016

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Internal Examiner **External Examiner**

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Bonafide Certificate

This is to certify that the dissertation entitled **"A Study to assess the effectiveness of child to child programme on Road Safety measures among middle school children in selected school at Kanyakumari District"** is a bonafide research work done by **Mrs. Agin Navis Mary, II year M.Sc (N),** Sree Mookambika College of Nursing, Kulasekharam under the guidance of **Mrs. Dali Christabel, M.Sc., (N), HOD of Child Health Nursing,** in partial fulfillment of the requirements for the Degree of Master of Science in Nursing under Tamil Nadu Dr. M.G.R Medical University.

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Declaration

This is to certify that the dissertation entitled **"A Study to assess the effectiveness of child to child programme on Road Safety measures among middle school children in selected school at Kanyakumari District"** is the outcome of the original research work under taken by me under the guidance of **Mrs. Dali Christabel, M.Sc., (N), HOD of Child Health Nursing,** Sree Mookambika College of Nursing, Kulasekharam. I also declare that the material of this has not formed anyway the basis for the awarded of any degree or diploma in this university or any universities.

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Certificate

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INVESTIGATOR

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Abstract

Road Traffic Accident is one of the major preventable public health problems and is on the rise which can be attributed to increase in the number of vehicles and life style changes and risky attitudes. Injuries to RTA as one of the prime causes to the global burden of diseases. The over all objective of the study was to assess the effectiveness of child to child programme on road safety measures by comparing the pre and post test knowledge scores. The study was carried out among 30 middle school children studying 6^{th} and 7^{th} standard samples were selected based on purposive sampling technique, designed as pre-experimental design with one group pre test and post test design. structured questionnaire to collect the data , analyzed by descriptive and inferential statistics. The analysis revealed that there was a significant improvement in the mean knowledge pretest score was11.4 and post test score was18.4 child to child programme improved the knowledge .The T value found to be 2 at $P<0.05$ level of significance that showed there was a significant improvement in the knowledge levels. study shows that child to child programme has resulted in significant improvement in the knowledge, development of positive attitudes and healthy practices among study group students. Therefore special and continuous health education of school children, like child to child programme in their formative years improves their knowledge and helps to develop positive attitude and healthy practices, which will eventually help to reduces road traffic accident and diseases like diarrhoea, malnutrition etc, not only amongst the children but also amongst their family members.

Key words: *RTA, Child to child programme.*

CHAPTER - I

Introduction

"SAFETY ISN'T JUST A SLOGAN IT'S A WAY OF LIFE"

- Road Safety Week (2015)

"NO SAFETY KNOW PAIN , KNOW SAFETY NO PAIN"

"Is better to lose one minute in life. Than to lose life in a minute, safety of children is the foremost priority of every parent"

As children grow and their world extends beyond the home and out into local roads, they are exposed to hazards and risks, Despite the fact that children use roads as pedestrians, cyclist, motorcyclists and vehicle passengers, the road environment is rarely development with consideration for their needs.

Today's children are tomorrow's citizens and healthy children are wealth of nation. children below 15 years of age make 40% of the total population of India. Children not only constitute large group but they are also vulnerable group or "special risk group" due to lack of health care, nutrition, immunization etc. Half of those dying on the world's roads are vulnerable road users pedestrians, cyclist and motorcyclist (Park .k).

Children being less aware of danger and are one of the most vulnerable groups. Younger children are more vulnerable indoors, while older ones are more at risk outdoors. Middle school children, roughly spanning ages 11 to 13, vary

tremendously in their levels of maturity, Middle school students are interested in absolutely everything for half an hour.

An accident is an event, independent of human will caused by an outside force acting rapidly and resulting in physical or mental injury. Accidents currently form the third leading causes of morbidity and mortality in the developing and developed countries (World Health Organization).

As per WHO, unintentional injuries are a leading cause of death among children. the unintentional injuries comprises of accidents such as falls, collisions, heat related injuries, burns and scald, poisoning and ingestion accidents, cuts and abrasion and drowning. This challenges the children's morbidity and mortality .According to WHO report of 2008, the leading cause of childhood injury and death is road accidents which kill 2,60,000, drowning 1,75,000, burns 96,000, falls 47,000 occurs a year globally and injured around were 10 million. Road traffic injuries alone ranked as the number one cause of disease burden among children between 5&14 years (Mishra.B.et.al.).

Road traffic accident if it occurs on a road or in a place to which the public have access and it include footpaths and bride ways .Children work, play & or live on the road and this exposure along with other risk factors inherent to childhood makes them particularly vulnerable in traffic. The result is millions of fatal or disabling injuries each year. In most countries, road traffic injuries are one of the top two causes of death from unintentional injury, with the highest rates among 15-19 years old. In WHO, May 2015 reported that every year, the lives of almost 1.24 million people are cut short their life as a result of road traffic cash. Between 20 to 50 million more

people suffer non – fatal injuries, with many incurring a disability as a result of their injury (WHO-UNICEF).

Road traffic accidents are the common cause of death in school children. India has the highest proportion of deaths due to road traffic accidents in South Asia. According to RTA is the third most important cause of deaths for 5 to 29 yrs old (WHO, global health estimates 2014) .

India's killer roads account for more deaths than any other single cause, from terrorism to natural deaths, Every day about 250 people die in road accident or an astonishing 1, 40, 590 each year. It is estimated that road accident cause an estimated loss of 1% of the country's gross domestic product. Every hour 13 people die due to road accidents. Every 10th person who dies due to road accidents is an Indian. In Last year 139, 671 people lost their lives on India's roads – 382 deaths every day. In India's daily death toll due to road accidents is more than four times the annual death toll from terrorism (India spend.com oct19,2015).

Road accidents are usually not caused intentionally. Rather, accidents are outcome lack of interaction among the condition inherent in the three characteristics like the roads, road users and transport. RTA can be occurred due to five factors, that India can address the tide of deaths. Speeding is the biggest killer on Indian roads speeding is the single largest factor responsible for the maximum number of deaths on Indian roads. During 2014, 57, 844 deaths – in that, 41% of the total death were due to accidents caused by speeding. Speeding had accounted for a similar share in pervious years as well and has consistently accounted for over 50,000 deaths on roads for the past several years (Gulf news sep;23,2015).

A pedestrian struck by a car driving at 37 km/hr has an average risk of death of 10% according to a study sponsored by American Academy Association foundation or US association dedicated to road safety, this increase exponentially with vehicle speed and rises to 90% for higher speeds.

Overloading of vehicles, particularly trucks, makes them hard to control, especially when they need to brake. However, it is common practice on Indian highway, similarly driving with protruding loads for instance steel roads protruding out of trucks is also a common sight on Indian roads, these two causes accounted for 36,543 deaths in 2014 (Peden.m.et.al.,).

In India, Madhya Pradesh and Bihar account for almost a quarter of all deaths due to drink and driving. Among smaller states, Haryana and uttarakhand have tolls ways higher than many larger states. Traffic police in major cities like Mumbai and Delhi have been conducting sustained campaigns against drink driving in response to high profile cases. Two wheelers account for the largest share of vehicles on Indian roads. So, it is not a surprise that, they also account for the largest number of fatalities. According to WHO statement, In 2014, 30% of all road deaths were of riders / passengers on two wheelers, while bicyclist accounted for 3% and pedestrians for 9% wearing a helmet can reduce the risk of severe injury by 72% and the risk of death by 39% (Road Traffic Injury Prevention-training manual).

Driver fatigue is a very dangerous condition created when a person is suffering symptoms of fatigue while driving, often resulting from the hypnotic effect especially during night time driving either falling asleep at the wheel or so exhausted to make serious and fatal driving errors.

In district statistical hand book of Kanyakumari in 2014, reported that, the total number of accidents in 1556 and 1484 persons are injured and 82 persons are killed due to Road accidents. Motor vehicle acts, administration policy (2014 – 2015) based, detected the cases of over speed (1294 cases), drunken driving (834 cases) over load of children in educational institution bus (1, 865 cases).

As per WHO, injuries due to RTAs was the sixth most important reason for mortality in India leading to hospitalization, disabilities and socio – economic losses. Economic losses, In developing countries, a loss of about 100 billion / year occurs because of RTAS. As a result of RTAS the affected families have to put up with the cost of extended medical care, bear the loss of wage earner, take additional care of the disabled which ultimately leads them to poverty. In India, the gross domestic product loss due to Road traffic accident was 3.5% in the year 2014 - 2015.

Physical health disabilities, the number of people injured / disabled due to RTAS range from 20 to 50 million. RTA contributes to 90% of Disability Adjusted Life Years (DALYS) lost. By the year 2020, it is essential that RTA will be the third among the various causes of DALY's lost. More than three fifth of traumatic brain injures were caused due to RTA is India. The most commonly involved part of the body was head and neck followed by extremities. Whiplash is the name for neck sprains to the cervical, thoracic or lumbar spines and is commonly associated with vehicle accidents usually when the vehicle has been hit in the rear. RTAS also has effect on the physiological and social well being of a person and his / her family. In India, the road traffic injuries resulted in the deaths of 1,50,000 persons and hospitalization of 3 million people annually (The Hindu, June 12, 2014) .

In as U.S. study showed, One Hundred and Thirty Seven (137) Patient attending hospital following road traffic accidents were contracted regarding pain in the neck between 1 and 2 years later. 62% stated that they had suffered pain in the neck, 22% still felt occasional pain 1 year after the accident and 5 had continuous pain at 1 year.

NCRB reported that, traffic accidents in the country have marginally increased by 1.8% during 2015 compared to 2014. In 2014, 4, 81,805 traffic accidents resulted in injuries to 4, 81,739 persons and 1, 69,107 deaths. A state of Uttar Pradesh followed by Maharashtra and Tamil Nadu have reported maximum fatalities in traffic accidents in the country, these 3states accounted for 1.22%, 11.0% and 10.1% of total deaths in traffic accidents (NCRB-2015).

Life is a precious gift by God and it should be handled with care. Nursing profession is one of the main professions responsible to care the life of people by providing preventive, curative, primitive, restorative and rehabilitative care. Safety begins at home. Right from the birth, human beings develop a sense of safety to protect themselves from the environment. Safety is not only necessary for the individual but also for the society on the whole. Road traffic safety means to safety drive on road to ensure that there is no harm or the driver of vehicle do not cause any harm to any other vehicle moving near by it. In other words we can say that road traffic safety means to reduce accident causes on road for proper driving.

In fact the Global status Report on Road safety (GSRRS) by World Health Organization (WHO) says it is the low level enforcement of simple road safety measures in India, like prohibition and monitoring of drunken driving, wearing helmets, seat belts and child restraints. Research shows that human error plays larger

part in road accident. If it is a contributory factor in 95% of accidents installation of safety skills in children can provide life long benefits to the society (The Health Site).

School teachers should inculcate traffic safety among students and enforces traffic rules within the school premise. Road safety education involves teaching children to be safe road uses. India adopted national health policy for children in August 1974 and recognized children as the "Nation's supremely important asset". David Morley and his colleagues in London who identified the child power for spreading the health messages (Indian journal of community medicine-2006).

The Child-to-Child Approach refers to a style of child empowerment where children are active participants in their own development and the development of other children. This approach is based on the belief that children, from whatever circumstances, are capable of helping them. The approach assumes that children will gain more from their development if they are active participants in the development process rather than passive recipients. Child-to-Child Approach aim to empower children with skills, knowledge and attitude to enhance not only themselves but to give them the ability to reach out to other children. Children who have acquired the appropriate skills, knowledge and attitude through various training programs are then able to share those assets with other children, in a variety of venues and using a variety of mediums. Children who are able to effectively share their skills with other children generally are good leaders, role models and facilitators (Bahay Tuluyan).

"Child to child programme" is based on the concept that children in schools and as family members need to be considered as partners in spreading health message

as well as benefiting from. The concept of child to child programme that had evolved from the recognition for the role those older children can play in caring for their younger siblings.

Road safety is a collective effort of the government and people, while the government administration must leave no stone unturned in ensuring proper condition of the roads and enforcing strict adherence to traffic rules, responsible driving and the right attitude of people with respect to traffic rules in perhaps is first step on the long road to 100% safety on the roads. Decade of Action for road safety 2011 – 2020, Road traffic injuries are a processing global health and development concern. Death due to RTAS have risen by approximately two fifth between the years 2005 – 2014 in India. Presently on the Indian road there is one death every six minutes , which predicted to risk to one death every 3minutes by 2020 (Medindia.net.).

Need and significance of the study

Children less than 12 years have a limited ability to cope with traffic and are disproportionately represented in deaths involving pedestrians. It has been estimated that one million deaths and 15 million road side accidents occur on roads world wide every year, it was estimated that occur 75% of road side accidents occur in developing countries, which involves 65% pedestrians and 35% of school children. The number of recorded road deaths in India – 1,40,000 annually is the higher in the world. In addition as estimated 2.2 million people are seriously injured on road.

According to WHO, the death rate due to RTAs road from 16.8 / 100,000 in 2011 to 18.9 / 100,000 in 2014. Number of deaths and injuries due to Road traffic Accidents in India between the years 2005 to 2014 raised by 5.8% and 2.4% respectively. In the year 2014, 1,41,526 Road traffic accidents were reported in India.

A total of 4,81,874 traffic accidents were reported in 53 cities during 2014, In 4,81,874 traffic accidents caused injuries to 4,72,523 persons and 1,17,416 deaths.

In that Tamilnadu (67,250 cases) followed by Maharasthra (44,382 cases), Karnataka (43,694 cases), Madhya Pradesh (39,698 cases), and Kerala (35,872 cases) have reported the maximum number of road accidents accounting for 14.9%, 9.8%, 9.7%, 8.8%, and 8% respectively of such accidents in the country.

The percentage share of deaths in traffic accidents due to “Road Accidents” was reported was 83.7% (1,41,526 deaths) out of the total RTAS, the proportion of fatal ones have increased from 18.1% to 24.4% from the year 2000 to 2011 also the casualties have increased by 1.3% in the year 2014 compared to 2013.

Most of road accidents were due to over speeding accounting for 36.8% total accidents, which caused 48,654 deaths and 1,81,582 persons injured. Dangerous / careless driving or overtaking caused 1,37,808 road accidents which rendered 48, 127 deaths and 1,38,533 persons injured during 2014, Besides 3.2% of road accidents were due to poor weather conditions.

Road accidents in Tamilnadu, state of South India are among the highest in India. In 2014, the state recorded 67,250 cases, in that Chennai city, the rate is 3.6% (3960 cases), the children below 14 years of age group is 97 male and 35 female children. In rural areas 54.7% and 45.3% of road accidents were reported (2,46,768 cases) and urban areas (2,04,130 cases) respectively during 2014. (16.5% in rural areas and 16.4% urban areas).

According to statistics complied by the transport department and the state police, 15,900 people were killed in road accidents in 2012, up from 15,422 the

previous year, this means, at least 43 people die in accidents every day. According to Tamilnadu state crime records bureau, 917 of the accidents were because of the drivers fault. Pedestrians were found responsible for, 1,747 accidents. Mechanical defect caused by 112 cases, while bad roads were blamed for 472 cases. Bad weather caused by 63 accidents. A majority of the deaths (22,168) happened an national highway in the state, followed by state highways (20,920 cases) district roads (15,020 cases) and village roads (7,765 cases).

In March 2010, the United Nations General Assembly tool steps to address their enormous global problem by proclaiming the decade of action for road safety 2011 – 2020. The goal of the decade is "To stabilize and then reduce the forecast level of Road Traffic faculties around the world by 2020"

A study conducted by Priyanka mahawar (2013) on road safety awareness and practice among school children. Showed that 40% of children lacked correct knowledge of traffic rules. Bicycle, motorcycle / scooter and car were driven mostly by 62%, 18.5% and 1.7% of school children respectively. Some children 13.3%. started driving under the age of 10 years. More half of the students informed that they were caught for not wearing helmets and not having valid documents. The chances of Road side Accidents (RSA) can be averted to a large extent if school children, are made aware of road safety measures. Road safety education is considered essential to teach children to interact with traffic safety.

In child to child program children are considered as very good messengers of health. At present world both the parents are working and not able to provide complete attention to their children. So children themselves are responsible for their health and their siblings also. child to child program is an effective method of

spreading health messages. Prof. Hugh Hawes states that “children have vitally important part to play in the health of the community, not merely by kept healthy by adults but in passing on health messages to then to younger brothers and sisters and by jointly co-operating to become a positive force of health”. Helath education to school children in their formative age is the most effective method for protection and promotion of their health.

Leena K.C. et al., (2014) conducted a study to assess the effectiveness of child to child approach to health education on prevention of worm infestation among primary school children in Mangalore. A study was carried out among 100 primary school children were selected by cluster sampling technique ,quasi experimental research design used to evaluate the study, Structured knowledge questionnaire methods was used for collecting the data. A study findings showed that, mean difference in the knowledge scores of children significant in traditional health education group ($t=5.61$, $P<0.05$), child to child group ($t=6.42$, $P<0.05$). Study concluded that, through proper training of peers and motivation, the child to child approach to health education improves the knowledge level of children on common issue concerning children is an effective way.

Above study, and many other studies demonstrated that the child to child programme is a effective and in expensive and more suitable for teaching the children. And also studies have shown that the children lack the knowledge of road safety measures. Children are active, creative and interested to explore the world. In this process, they are neglecting their safety. Making aware of road safety measures to them is effective in reducing accidents in children. As prevention and educating people is an important function, nurses can teach the students regarding road safety

measures and can help in reducing child mortality and morbidity rates to some extent. Hence, we need to conduct the study on effectiveness of child to child programme on road safety measures.

Statement of the problem

A study to assess the effectiveness of child to child programme on road safety measures among middle school children in a selected school at Kanyakumari District.

Objectives of the study

- To assess the knowledge of group II middle school children regarding road safety measures before and after child to child programme .
- To determine the effectiveness of child to child programme regarding Road Safety measures among Group II middle school children.
- To find the association between the knowledge of group II middle school children with selected demographic variables such as age, sex, education status of mother and father; occupation of mother and father, types of family, living area and source of information.

Hypothesis

H1 : There is a significant improvement in the level of knowledge of Group II children regarding road safety measures.

H2: There is a significant association between knowledge regarding road safety measures and their selected demographic variables among group II middle school children.

Operational definition

Effectiveness

In this study, effectiveness refers to the desired changes occur regarding road safety measures among group II middle school children after the child to child programme .It's measured by structured questionnaire.

Child to child programme

In this study there are two phases **:**

Phase I : Group I middle school children belongings to 8th std, age group of 13 yrs, 20 students were selected according to their academic performance, interest in participating group activities as reported by their teacher. Health teaching was given by the investigator to group I children regarding road safety measures for one hour and then selected only six students based on higher test score.

Phase II : In these group I children, disseminated information about road safety measures to their Group II children (30 members) age group of 11-12 yrs belongings to 6th and 7th standard. In phase II, one selected group I child, spreads the information on road safety measures to five group II children for one hour duration.

***Road safety measures* :**

In this study, road safety measures refers to meaning, causes of road traffic accidents, risk factors, rules and regulations, traffic rules, impacts of road traffic injury, preventive measures taken for traffic accidents and strategies followed for keeping children safe on the road, these measures taught by group I children to group II children for one hour duration.

***Middle school children* :**

In this study, middle school children refers to the male and female children belonging to the age group of 11-12 yrs studying 6th and 7th standard.

Delimitation :

- Study is limited only at one school.
- Age is limited to 11-12 years
- Duration is only one month.

Assumptions:

- The middle school children can understand the concept and need of road safety measures.
- The middle school children safeguard themselves and guide the younger children to prevent road traffic injury.
- The child to child approach may create awareness on road safety measures among middle school children.

Conceptual framework

Conceptual framework is a global idea about a concept in relation to a specific discipline. It is a usual diagram by which the research explains the specific areas of interest.

The conceptual framework for this study was derived from J.W Kenny's open system model. All living things are open system ,in which there is a continual

exchange of matter, energy and information provides input for the system. The system transforms the input to the process is known as throughput. The energy of information is given off into the environment as output. When output is reformed into the system as input, the process is known as feedback.

Input:

In this study , Input consists of information, material or energy that enters the system. Input is child to child programme.

Throughput:

In this study throughput refers to process after the input absorbed by the system in a way useful absorbed by the system in a way useful to the system. This transformation is called throughput. Throughput was the transformation process which is obtained by delivery of child to child programme.

Output :

In this study output refers to the level of knowledge improved through child to child programme.

This study is aimed to assess the effectiveness of child to child programme regarding road safety measures among middle school children.

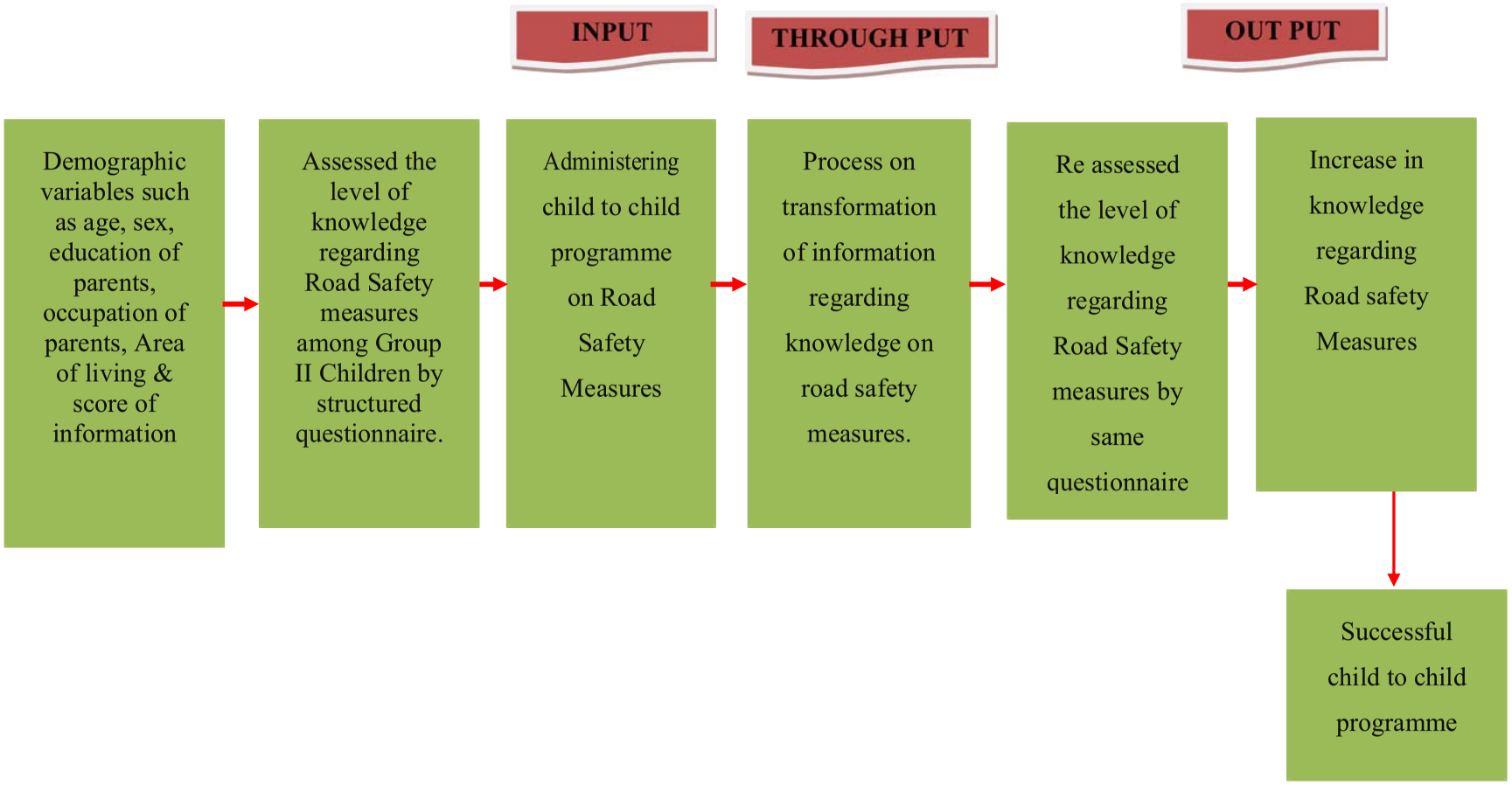


Figure 1 **. Conceptual Frame work based on Modified J.W. Kenny's Open system Model**

CHAPTER - II

Review Of Literature

Review of literature is an exhaustive and systematic examination reviewed in depth so, as broaden the understanding of the selected problem. This chapter attempts to presents a broad review of the study conducted the methodology adopted and conclusion drawn by earlier investigations. It helps to study the problem in depth.

1. Studies related to accidents among adolescents
2. Studies related to knowledge and practice on road safety
3. Studies related to road traffic injuries.
4. Studies related to prevention of Road Traffic Accident.
5. Studies related to child to child approach.

Literature related to accidents among adolescents :

S.B. Salve, R.K. Dase et al., (2014) conducted a cross sectional study on awareness and behaviour of adolescence towards Road traffic Accidents a study was carried out among 1051 adolescent attending academic coaching classes in Aurangabad city was selected as a sample and convenient sampling technique was used, questionnaire method was used for collecting the data duration is 3 months. A study findings showed that 665 (63.27%) adolescence had good awareness, 219 (20.84%) about their vehicle's condition awareness about road traffic sign was good amongst 448 (42.63%) adolescence, average (42.53%) and poor (14.84%) boys had

good awareness towards Road traffic sign compared to girls. Students have permanent driving license (19.5%) do not have license (68.03%) use of safety measures using driving was very less 19.75% and not followed the traffic rules by 66.32% students. Prevalence of accident among adolescence driver was more boys (68.4%) compared to girls (31.56%). This study concluded that, maximum adolescents were aware about green and red colour signals, but awareness towards the yellow signals was less amongst boys and girls. RTA are totally avoidable in a sense that it is only needs to create a sense among people regarding road safety and its benefits in their own interests.

Thomas D. Marcotte et al (2012) conducted a self report longitudinal study about high risk driving behaviours among 16-18 years age group of adolescent were recruited from school districts / communities in university of California, san Digo human Research Protection programme and history of recent binge drinking. Sample of 21 ABD and 17 CON data collected depend on education, age, race, gender, years of driving, recent driving. A study finding showed that ABD more frequently violated GDL breaking the laws a median of 60 time 9 times for CON over half of ABD youth reported spearing running yellow lights, and dangerous passing compared to one in five CON. Fifteen participants (39.5%) reported crashes in which they were the driver. Both participants had a serious crash. ABD had a higher rate. Study concluded that GDL is effective in lowering teen crash rates, binge drinking teen may thus require additional intervention to ensure GDL compliance.

Rahul Sharma et al., (2010) conducted a study to assess the health risk behaviours related to road safety among adolescent students. A study was carried out among 500 students aged in 14-19 years in 3 schools and 2 colleges in South Delhi

was selected as a sample and cluster sampling technique was used, semi- open ended self administered questionnaire method used for collecting the data duration of one year. a study finding showed that, more than half ie 52.4% reported not always wearing a seat belt, about 72.1% of two wheelers reported not always and 23.3% reported never wearing helmet and nearly 20% students ride vehicle with drink and driving. Road hazards behaviour found to be significantly more in males and lower age group. 77.5% of the respondents were at risk as far as behaviours related to safety on roads are concerned. Study concluded that, evoke earnest response from the government, Policy makers and all personnel concerned with adolescent welfare on how best to reduce the extent of this preventable problems.

Literature Related to knowledge and practice on Road Safety :

Subathra.N.(2015) conducted a study to assess the effectiveness of a video assisted road safety programme on knowledge and attitude of adolescent boys towards road safety in a selected school at Coimbatore, A study was carried out among 90 students in classes 9^{th} to 11^{th} standard were selected as a sample ,systematic random sampling technique was used,self administerd questionnaire method was used for collecting the data duration is one month.A study finding showed that, the mean score of over all attitude before and after intervention was significantly improved from 23.32 to 41.13. more than half of the adolescent boys 51(56.7%) had unabourable attitude and 39(43.3%) had moderately favourable attitude towards road safety. The study concluded that some form of intervention is continuoly needed for school children to bring about a greater sense of responsibility & safety among the young generation and thereby reduce the occurance of RTA in future.`

L. Lalitha D. et al (2015) conducted a cross sectional study to assess knowledge, attitude and practice of road safety measures among college students in Vishakapattinam city, a study was carried out among 150 college students, was selected as a sample and convenient sampling technique was used. Structured questionnaire method was used by collecting the data, duration is 3 months. A study finding showed that, about 67% of females had knowledge about speed limit compared to 30% of males, this difference was statistically significant (P=0.01). More than 90% of the students strongly agreed that mobile phones should not used in driving 76.7% of students drive a vehicle, only 52.17% among them wear helmet while driving, the study concluded that, continuous efforts are required to increase awareness on road safety measures.

Taranga Reang, Amar Tripura (2014) conducted a cross – sectional study to assess the knowledge and practice on road safety measures among under graduate medical students in Govinda Ballabhpant hospital. A study was carried out among 310 medical students in AGMC campus was selected as a sample and convenient sampling technique was used Structured questionnaire method used for collecting the data and duration is 3months. A study finding showed that, majority (65%) know that consumption of alcohol while driving was dangerous, talking while driving distract the driver, cautions drive near school, seat belt to be worn be everyone in the car, males had significantly (P=0.035) better knowledge compared to females, the study concluded that continuous effort should be on the increase road safety measures through IEC activities to reduce the morbidity and mortality regarding RTA.

Priyanka Mahawar et.al., (2013) conducted a cross – sectional study on basic awareness on road safety among school going children in Indore. A study was carried

out among 159 school going children age group of 16-18 years was selected as a sample and simple random sampling technique was used, structured questionnaire method was used for collecting the data. A study findings showed that among the sample 21.4% of knows to slow down vehicle near a zebra crossing, 23.3% knew the use of low beam of light in night. 89.3% of sample know the use of helmet for protection. 72.3% knows the use of mobile phone is prohibited while driving. 35.2% knows the indication of yellow traffic signal. This study concluded that, continuous reinforcement and education remainding them of traffic rules can bring about the positive change in them and motivated them for strictly sticking to norms of traffic.

Humayun mirya (2012) conducted a cross – sectional study to assess the knowledge, attitude and practice regarding road safety among peri – urban school children in Lahore, a study was carried out among 100 children in classes 4 to 10 were selected as a sample, simple random sampling technique was used. Structured questionnaire method was used for collecting the data, duration is 2 months. A study findings showed that, awareness was 85% high about increased chance of accidents by not use of helmets and 92% using mobile and the knowledge level of the children regarding traffic signal lights (94%), not to horn (79%) Zebra crossing (95%) and pedestrian prohibited (75%). the study concluded that, Good knowledge about road safety did not translate into prudent traffic practices by students.

Studies Related to Road Traffic Injury :

Tripathi M. et al (2014) conducted a descriptive study to evaluate the profile of head injury patients due to road traffic accidents, admitted in Post Graduate Institute of Medical Education and Research (PGIMER) chandigarh. A study was carried out among 545 patients (314 males and 231 females) during the period of

April 2011 to Dec 2011 constituted the study population and study findings showed that, only full coverage helmets effective in preventing head injury. 48% sustained severe head injuries compared to 23.7% of unhelmeted persons, proper chinstrap helmet 2.6% suffered critical injuries 14% non strapped, 19% drunken driving, 6% of a 2 and 4 wheeler vehicular occupants. Study concluded that, a ready supply of afforadable helmets of appropriate quality and strict legislation for safety constraints in the need of the hour for road safety.

Dong X et. al (2011) conducted a study to assess the effect of road safety knowledge and risk behaviours on road traffic injuries. A study was carried out among 3,747 children from 6 primary schools and six middle schools in Guangzhou, stratified cluster sampling technique, 14 item road safety knowledge index method and 25 item road safety behaviour index methods was used for collecting the data, study finding showed that, high propotion of injuries was found more in boys (46% of all injuries) . Motor vehicle related injuires had highest hospitalization and worse psychological impact than bicycle (or) pedestrian injuries. Study concluded that, better road safety knowledge and the avoidance of walking or cycling related risk behaviours are protective factor for road traffic injuries.

Sheriff .A. et. al., (2011) conducted a descriptive study to assess the common types of unintentional injuries among children admitted for management of unintentional injuries in pediatric surgery department and intensive care unit of tertiary care hospital at Kerala, A study carried out a total of 400 children admitted during the 6 months duration. Study findings showed that, mechanical injuries comprising road traffic accidents and accidental fall were the major cause of unintentional injuries (36%) Poisoning (23%),and the study concluded that, a higher

proportion of unintentional injures noted among children of young mothes, Over active child, children belonging to extend or joint families, pre – school children and male child, and the need to identify the different types of unintentional injuires and the risk factors of childhood injuries which require hospitalization.

Literature Related to prevention of RTA :

V.J.Bini Paul.V.Hemavathy (2015) conducted a quasi experimental study to evaluate the effectiveness on prevention of RTA among school going children .study was carried out 100 school going children between the age group of 10-12yrs selected by simple random-lottery method, one group pre test and post test research design used to evaluate the study, Structured questionnaire method was used for collecting data, and duration is one month. Data analysed using descriptive and inferential statistics, the study finding showed that in pre test out of 100 sample(83%) had inadequate knowledge on road traffic rules and regulation and(17%)had modearately adequate knowledge, after intervention children (99%) had adequate knowledge and (1%)had moderate knowledge on RTA.

Jayavel. M. and Lizy et al., (2014) conducted a quasi – experimental study to assess the knowledge and attitude regarding prevention of Road traffic accidents among adolescents a study was carried out among 150 adolescent in the age group of 13-17 yrs studying in Sri Krishna International school ITI colony at Bangalore was selected as sample and simple random sampling technique was used Structured questionnaire method was used for collecting the data and duration in three months. A study findings showed that average knowledge and attitude score among adolescence student found to be 34.75, 17.54 respectively the mean post test knowledge score was 49.033 the difference in the level of knowledge and attitude was 5.67, this was

statistically significant (P<0.001). The study concluded that, the structured teaching programme was effective in improving knowledge and attitude of adolescents on prevention of road traffic accidents.

Iuer RQ. et al. (2014) conducted a study on effectiveness of road motorcycle coaching program reduce crashes in novice motorcycle riders. Study carried out systematic review of randomized control trials, between may 2010 and October 2012, newly licensed provisional riders were recruited in Victoria, Australia selected as sample and data collected for telephone interview before randomization to intervention or control groups duration is 3 to 12 months, a study findings showed that 89% follow up for 3 months and 88% at 12 months. 60% of the intervention group completed the program. Intention to treat analyses conducted 2014 indicated no effect on crash risk at 3months. (adjusted or 0.90%, 95%, Cl:0.65 -1.27) or 12 months (adjusted or 1.00, 95% Cl:0.78-1.29) riders in the intervention group reported increased riding exposure, speeding behaviour and riding conference, study concluded that, road, motorcycle rider coaching program reduced the risk of crash and found an increase in crash related injuries.

Harsha Thomas (2010) conducted a quasi experimental study to assess the effectiveness of self instructional module regarding knowledge of self instructional module regarding knowledge and practice on prevention of RTA among adolescence in selected schools and colleges. study was carried out 60 adolescence population selected in schools and colleges in Bangalore city. Purposive convenient sampling technique was used, Structured questionnaire method was used for collecting the data and duration is 4-6 weeks, the study findings showed that adolescence generally understands the danger of intoxicated driving the self instructional module will have

an impact on the adolescents knowledge and practice regarding prevention of RTA .the study concluded that adolescents are more prone to get into road traffic accidents

Studies Related to Child to Child Approach :

Anns Nija.G and A. Reena evency (2015) conducted a study to compare the effectiveness of researcher to child and child to child approach regarding knowledge on child abuse among adolescent girls in selected school, kanyakumari district. A study was carried out among 60 adolescent girls of 9th standard in St.JohnVianneys Girls Hr.Sec.School, Palliyadi were selected as a sample, Simple random sampling technique was used, quasi experimental research design used to evaluate the study .Knowledge assessment questionnaire method was used for collecting the data, duration is one month data analysed using descriptive and inferential statistics. A study findings showed that child to child approach is more effective than researcher to child approach to increase the level of knowledge on child abuse. The paired 't' value of study group I was 11.88*,the study group II was 12.06*,which was significant at $p<0.001$.Study concluded that more importance to be given for child to child approach to increase the level of knowledge on health aspects.

Leena K.C. et al., (2014) conducted a study to assess the effectiveness of child to child approach to health education on prevention of worm infestation among primary school children in Mangalore. A study was carried out among 100 primary school children were selected by cluster sampling technique ,quasi experimental research design used to evaluate the study , Structured knowledge questionnaire methods was used for collecting the data. A study findings showed that, mean difference in the knowledge scores of children significant in traditional health education group ($t=5.61$, $P<0.05$), child to child group ($t=6.42$, $P<0.05$). Study

concluded that, through proper training of peers and motivation, the child to child approach to health education improves the knowledge level of children on common issue concerning children is an effective way.

B. Muneeswari (2014) conducted a study to assess the effectiveness of planned health teaching programme using child to child approach on knowledge of selected first aid measures among school children in selected school at Dharapuram in Tamilnadu a study was carried out among 200 school going children age group of 12 – 13 yrs selected as sample, simple random sampling techniques, quasi experimental design used to evaluate the study, Structured questionnaire methods was used for collecting data, a study finding showed that, knowledge regarding first aid measures 70% had inadequate knowledge. Significant association was found between knowledge score of school children with academic performance. Mean value of pre and post test were 10.26 and 21.25, study concluded that about 68.5% of students gained to adequate knowledge after teaching programme using child to child approach.

D. Souza Renita Priya, N. Renuka (2013) conducted a study to assess the effectiveness of child to child programme on road safety education among school children at Bangalore, a study was carried out among 60 students, Purposive sampling technique was used, Semi – structured questionnaire methods was used for collecting data, a study finding showed that, the over all mean percentage knowledge score in the pre test was 45% and 79.69% in the post test. This study concluded that, child to child programme was significantly effective in improving the knowledge scores of school children regarding road safety.

Rekha sonavene.et.al.,(2012) conducted a study to evaluate the impact of health education n improving the knowledge of children regarding ear health and to compare the effect of child to child approach for health education with the adult to child approach, study was carried out , 212 students of 6^{th}&7^{th} standard ,government aided school in Bangalore were selected as sample, and random sampling technique was used to divided into two groups. Structured closed ended questionnaire method was used or collecting the data ,paired test used as statistical analysis, study finding showed that, over all pre test mean score 4.9 ± 1.2 increased significantly after health education to mean post test score of 6.8 ± 1.8($p<0.001$).mean post test score of child to child group raised to 7.01 ± 1.85 and adult to child group raised to 6.76 ± 1.83.The study concluded that, children are as effective as adult the of knowledge to other children and can be effective change agents in ear health

R.Walvekar et.al.,(2006) conducted a study to assess the impact of child to child programme increasing the knowledge ,attitude, practice regarding diarrhea among rural school children in Karnataka. A study was carried out a randomized control trial between students, randomly selected a 52 study group students in VI std government primary school, masthmarodi. those who are not selected 54 control group students in VI std government primary school , shindoli. Structured questionnaire method was used for collecting the data, duration of june 2000 to 2011.wilcoxon's signed ranking test used as statstical method. the study finding showed that ,average of 50% of study group students knew that eating contaminated food(51.85%),drinking contaminated water(46,20%),eating food exposed to flies(46.29%) and dust(53.70%)causes diarrhea, study concluded that, child to child programme had made significant improvement in the knowledge, change in attitude and practice of study group students compared to control group students.

CHAPTER - III

Methodology

Introduction

Methodology is designed to develop, validate, implement and to evaluate the research tools and techniques. Methodology requires a sound specific and exhaustive literature review to identify the theories and underlying concept.

This chapter includes research approach, research design, variables, settings, population, sampling technique, sample selection criteria, data collection tool, pilot study, data collection procedure and plan for data analysis.

Research Approach :

Quantitative research approach was selected for this study.

Research design :

The research design adapted in this study was one group pre - test post -test pre-experimental design.

O_1 x O_2

O_1 - Assess the pre test knowledge of group II children

X - Intervention (Child to Child programme regarding Road safety measures.)

O_2 - Assess the post test to evaluate the effectiveness of road safety measures among group II children.

Variables :

Independent variables : Child to Child programme

Dependent variable : Road safety measures

Demographic variables : Age, Sex, Educational status of the child, Parent's education, parent's occupation, family's income, type of family, living area and source of information.

Setting :

The setting of the study was Govt High School Kesavapuram at Thiruvattar, Kanyakumari District.

Population :

Target Population :

The target population was school children from Government High school, Kesavapuram.

Accessible population :

The accessible population was 30 school children at the age group of 11 – 12 years.

Sample size :

The sample size consists of 30 school children.

Sampling technique :

Purposive sampling technique was used for the selection of sample.

Criteria for sample selection :

Inclusion Criteria :

- Children between the age group of 11-12 years.
- Children who know English and Tamil .
- Children who are willing to participate in the study
- Children both male and female.

Exclusion Criteria:

- Children who were absent on the day of data collection.
- Mentally retarded children.

Data collection Tool :

Data collection tool used for this study was,

- Demographic variables
- Structured Knowledge Questionnaire

Description of the Tool :

Tool consist of 2 sections.

Section A – deals with demographic variables

1. Age

2. Sex

3.Child Educational Status

4. Education of Father

5. Education of Mother

6. Occupation of Father

7. Occupation of Mother

8.Family Income

9.Type of family

10. Source of information

11. Living area

Section B – consists of 25 structured knowledge questionnaire regarding road safety measures.

Each right answer carries 1 marks and wrong answer carries zero marks. No negative marks for wrong answer.

Scoring :

Knowledge is classified according to percentage of score.

Adequate knowledge - 76 – 100%

Moderately adequate knowledge - 51 – 75%

Inadequate knowledge - <50%

Validity :

After preparing the tool, the content were validated by five experts in the field of Child Health Nursing and one expert from the department of Pediatrics Medicine.

Reliability :

Reliability is tested by test re- test method. Reliability was calculated by spearman's rank co-relation test and the reliability was r=0.85, Hence the tool was reliable.

Pilot Study :

In order to find out the feasibility and practicability of study, a pilot study was conducted in Govt. Middle school at Marthandam by the investigator. After getting permission from the school head master, pilot study was conducted for a period of seven days. structured knowledge questionnaire was used for data collection. pilot study revealed that the study was feasible and the tool was appropriate for the study.

Data collection procedure:

Data collection was conducted in Govt High school in Kesavapuram at Thiruvattar. For group I, 20 students were selected based on their academic performance and interest in participating group activities as reported by their teacher from 8^{th} standard and given structured teaching programme on road safety measures

by investigator for an hour and only six students to be selected based on higher test score to disseminate information to group II children .

The investigator has been selected the group II the age group of 11-12 years by purposive sampling technique, 30 samples were selected. First assessed the knowledge of road safety measures by structured questionnaire. After that Child to Child session was conducted. In that session, the group I children (each one) disseminate the information regarding road safety measures through A.V. Aids (flash cards, booklet, leaflet, power point) to group II children (5 members) for three days. Totally 6 sessions were carried out during the data collection period (18 days). Finally post test was conducted by the same structured questionnaire regarding road safety measures. Pre test and post test are compared and analyzed.

Plan for data analysis:

The data analysis was done by using inferential and descriptive statistics such as percentage, mean, t-test and Chi square test.

Sl.no	Data analysis	Methods	Remarks
01.	Descriptive statistics	• Mean • Standard deviation	Describe Demographic Variable. To find out positive square root of mean of standard deviation
02.	Inferential statistics	• T-test(paired) • Chi square test	To find the significant difference between two means. To find the association between two events.

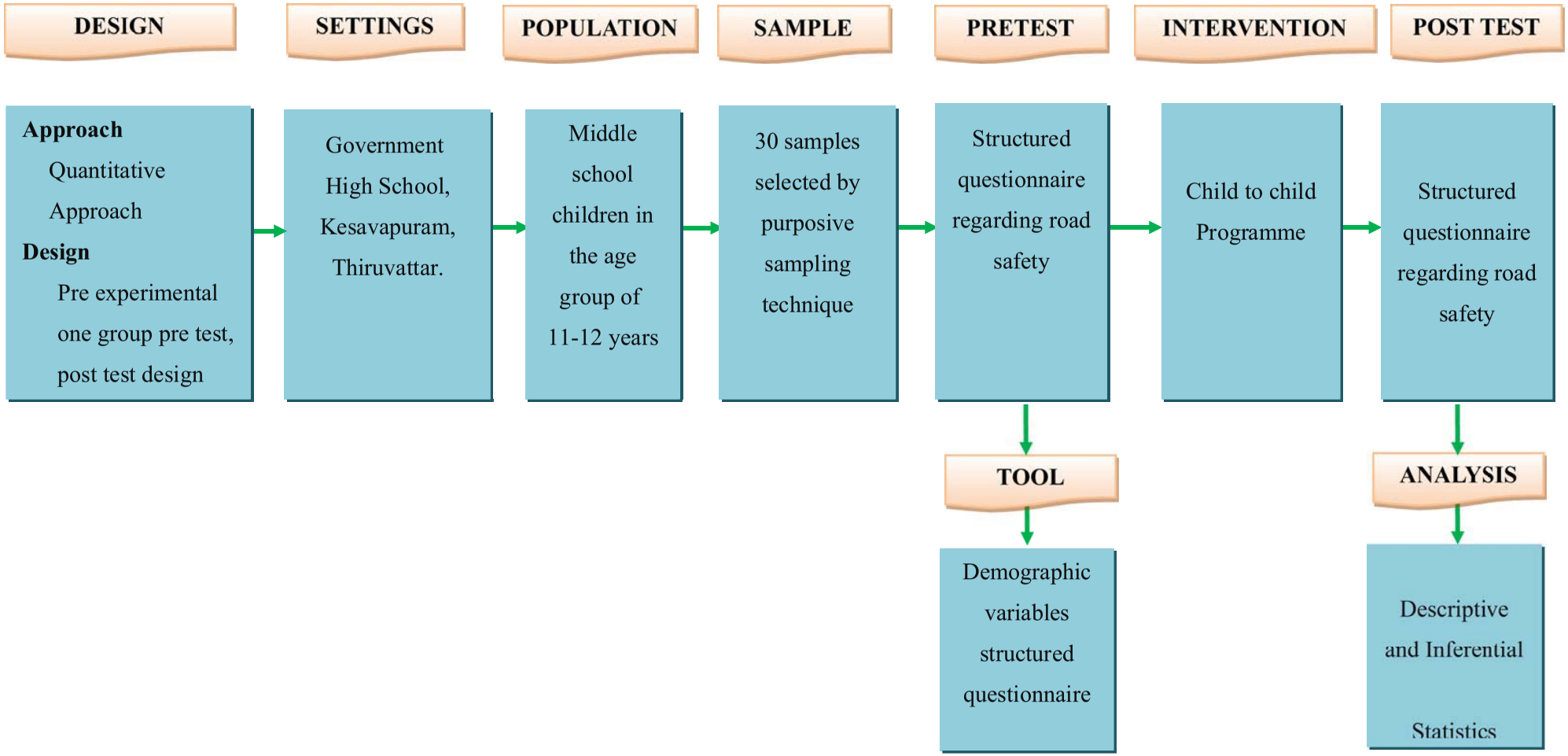


Figure 2 **: Schematic Representation of Research Design.**

CHAPTER - IV

Data analysis And Interpretation

Statistical analysis is a method of rendering quantitative information meaningful and intelligible. It is intended to bring to light the findings of the study.

This chapter deals with the anlaysis and interpretation of data collected in accordance with objectives stated for the study. The data collected was analyzed by using descriptive and inferential statistics.

The anlaysis and interpretation of knowledge of middle school children regarding Road Safety Measures, Effectiveness of Child to Child Programme was made by descriptive statistics and demographic variables with knowledge of middle school children regarding road safety measures were analyzed and interpreted by Chi-square test, the level of significance was tested.

Objectives of the Study :

1. To assess the knowledge of middle school children regarding road safety measures before and after Child to Child Programme.
2. To determine the effectiveness of Child to Child Programme by comparing the pre and post test knowledge scores.
3. To find out the association between the middle school children regarding road safety measures with selected demographic variables such as age, sex, education of father, education of mother, occupation of father, occupation of mother, family income, living area, types of family and source of information.

Section A :

This section deals with Distribution of sample according to their demographic variables of study subjects.

Table 1

Frequency and Percentage of sample according to demographic variables N = 30

S. No.	Demographic Variables	Middle school children	
		Frequency	**Percentage %**
1.	Age		
	(a) 11 yrs	15	50
	(b) 12 yrs	15	50
2.	Sex		
	(a) Male	14	47
	(b) Female	16	53
3.	Education Status of child		
	(a) 7^{th} std	17	57
	(b) 6^{th} std	13	43
4.	Education status of the Mother		
	(a) Illiterate	4	13
	(b) Primary	10	33
	(c) HSC	14	7
	(d) College	2	47

Table One continued ……

S. No.	Demographic Variables	Middle school children	
		Frequency	**Percentage %**
5.	Education status of Father		
	(a) Illiterate	2	7
	(b) Primary	12	40
	(c) Higher Secondary	14	46
	(d) College	2	7
6.	Mother Occupation		
	(a) Daily Wages	5	17
	(b) House wife	15	50
	(c) Private Employee	8	26
	(d) Govt. Employee	2	7
7.	Occupation of Father		
	(a) (Daily Wages	14	47
	(b) Self Employee	6	20
	(c) Private Employee	9	30
	(d) Govt. Employee	1	3
8.	Family Income		
	(a) Less than 10,000	17	57
	(b) Rs. 10,000 – 15,000	10	33
	(c) More than 15,000	3	10
9.	Types of Family		
	(a) Joint	8	27
	(b) Nuclear	22	73

Table One Continued ……..

S. No.	Demographic Variables	Middle school children	
		Frequency	**Percentage %**
10.	Source of Information		
	(a) Parents	13	43
	(b) Teacher	15	50
	(c) Family and Friends	2	7
11.	Living Area		
	(a) Village	21	70
	(b) Town	9	30

The above table1.describes that 50% of participants were 11 years of age and 50% were 12 years of age and 47% were male 35% were females. Regarding education of the child 57% 7th standard and 43% were 6th standard. About Educational status of the mother 13% of mothers were Illiterate 33% of mothers have completed primary education, 47% Higher secondary and 7% degree holders. Regarding educational status of father, 7% were Illiterate, 40% have completed primary education, 47% higher secondary 7% completed college studies. In aspect of occupation of Mother 17% daily wagers, 50% House wife 27% private employee, 7% Government employees. Among occupation of father, 47% daily wage, 20% self employee, 30% private employee 3% government employee, Regarding Income of the family 57% were less than Rs. 10,000/- month, 33% were range between Rs. 10,000 - 15,000/- month and 10% were more than 15,000/-. In case of source of information 43% received information from parents, 50% from teachers, 7% from family and friends.

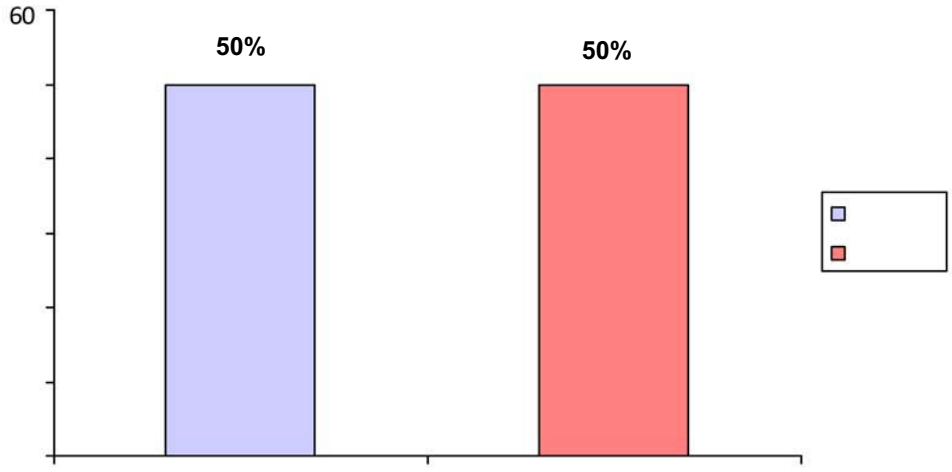


Figure 3 **: Bar Diagram Represents Distribution Of Samples According To The Age**

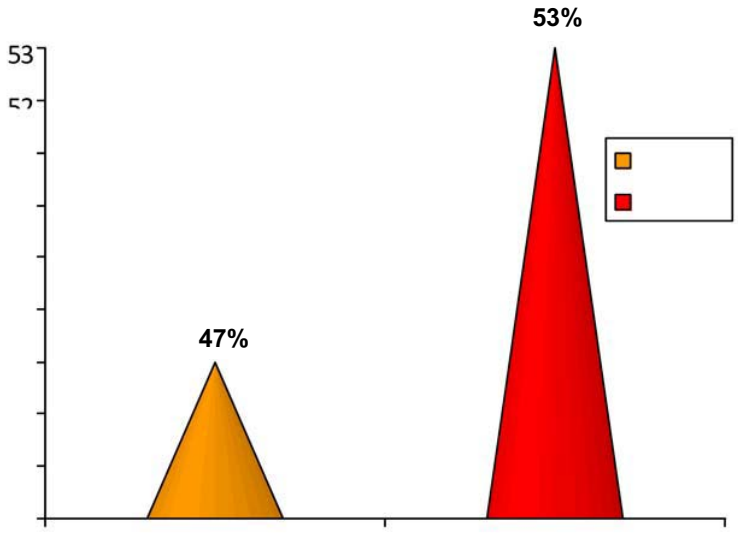


Figure 4 : **Cone Diagram Represents Distribution Of Samples According to the Sex**

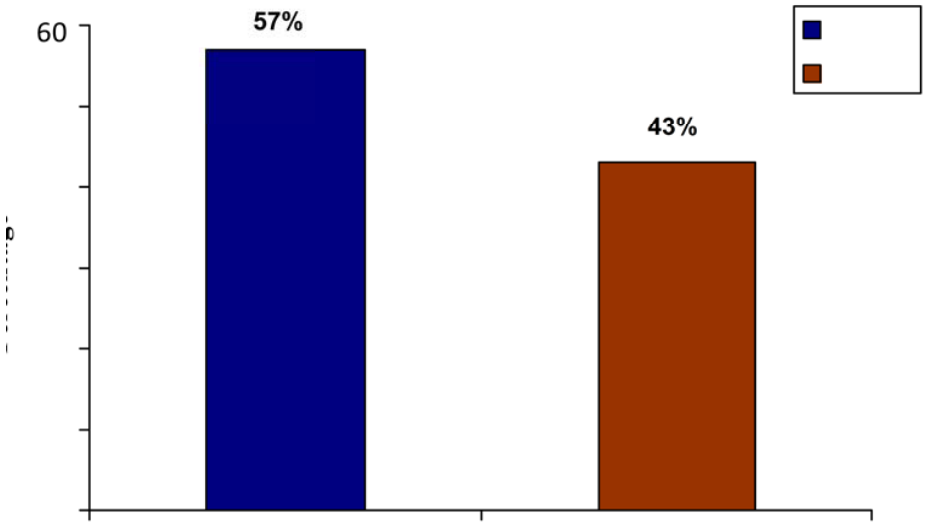
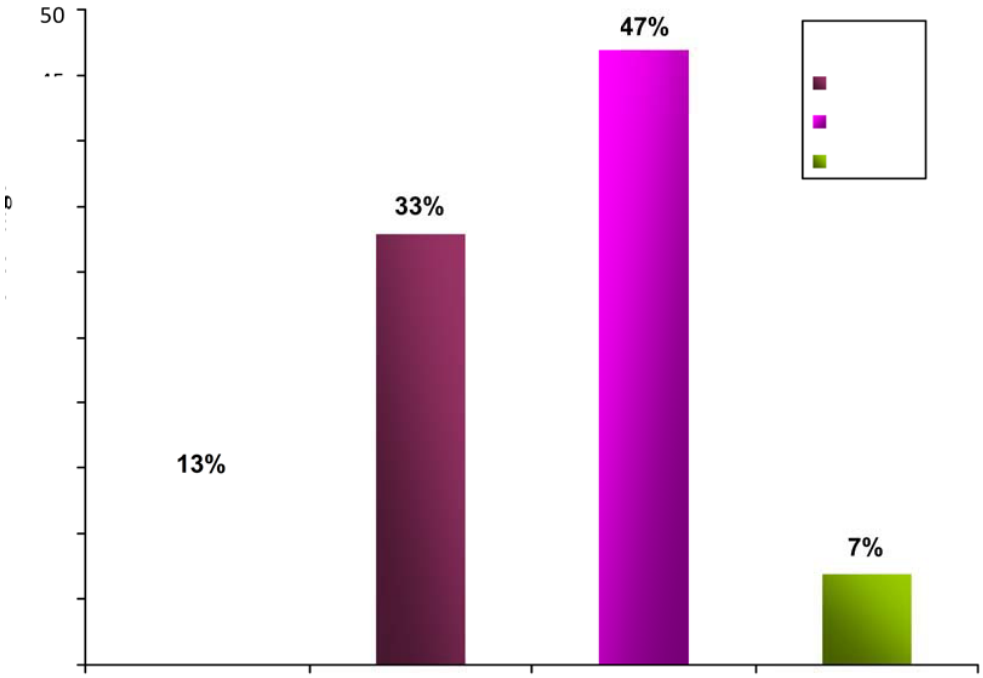


Figure 5 **: Bar Diagram Represents Distribution Of Samples According To The Educational Status Of The Child**



Educational Status of the Mother

***Figure 6*: Bar Diagram Represents Distribution Of Samples According To The Educational Status Of The Mother**

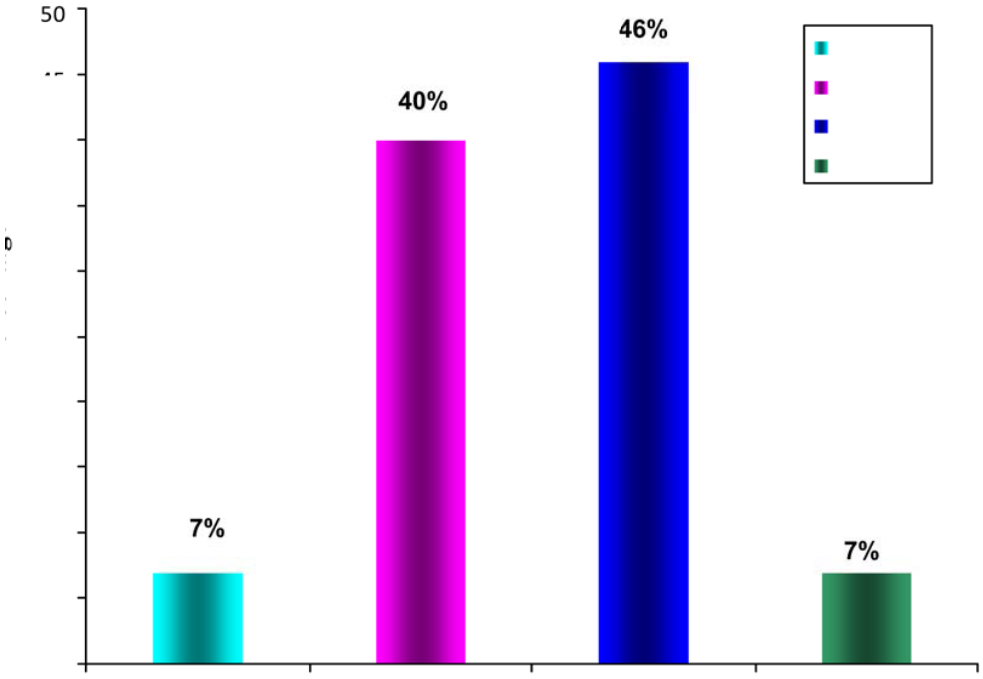


Figure 7 **: Bar Diagram Represents Distribution Of Samples According To The Educational Status Of The Father**

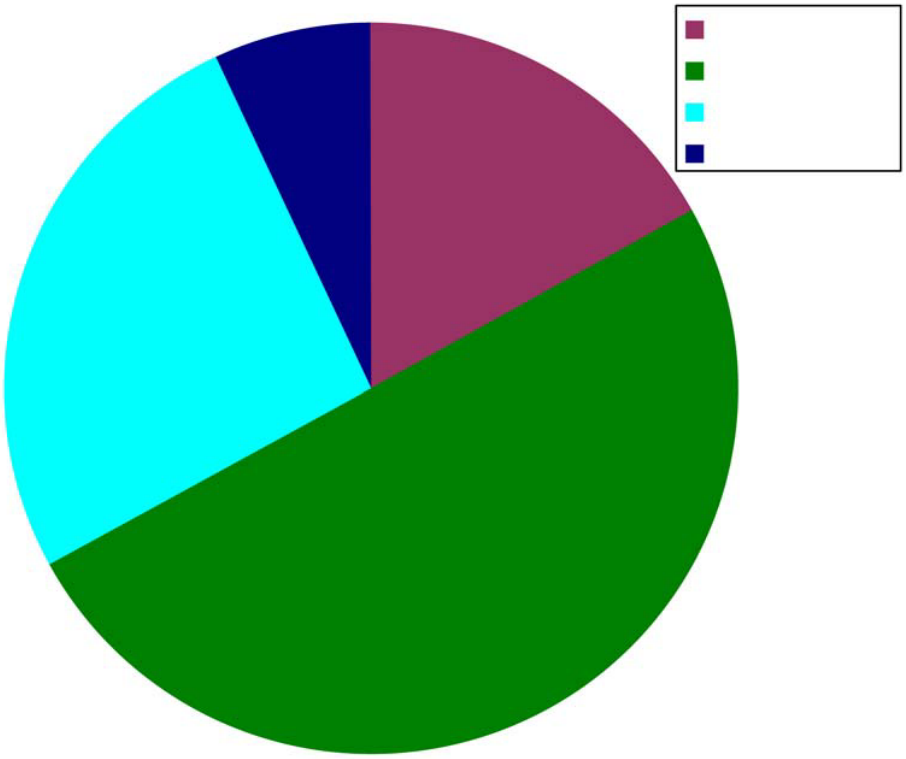


***Figure* 8 : Pie Diagram Represents Distribution Of Samples According To Occupation Of Mother**

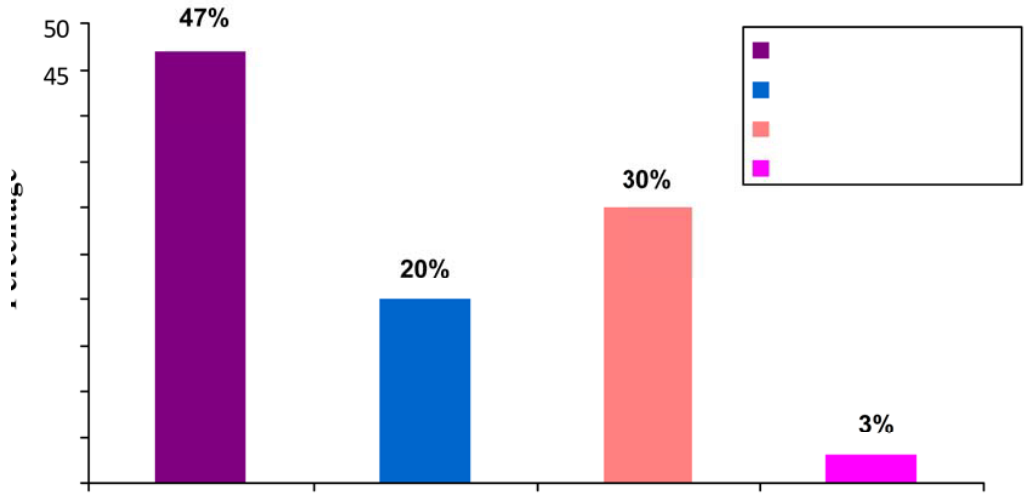


Figure 9 **: Bar Diagram Represents Distribution Of Samples According To Occupation Of Father**

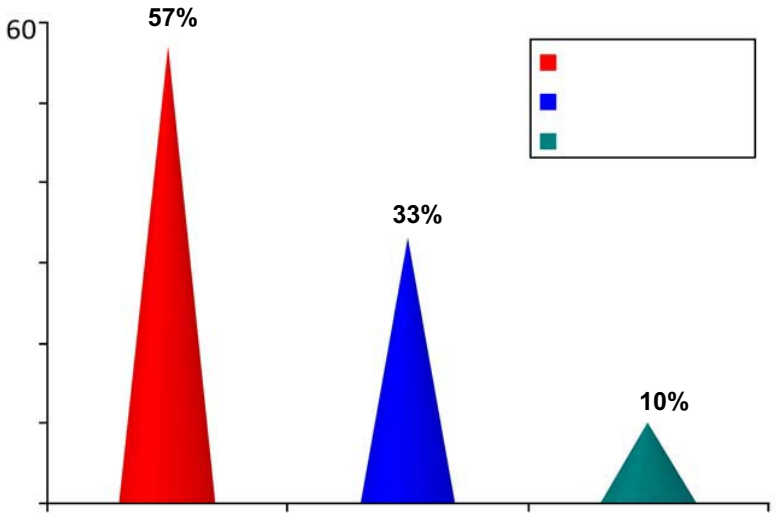


Figure 10 **: Cone Diagram Represents Distribution Of Samples According To Family Income**

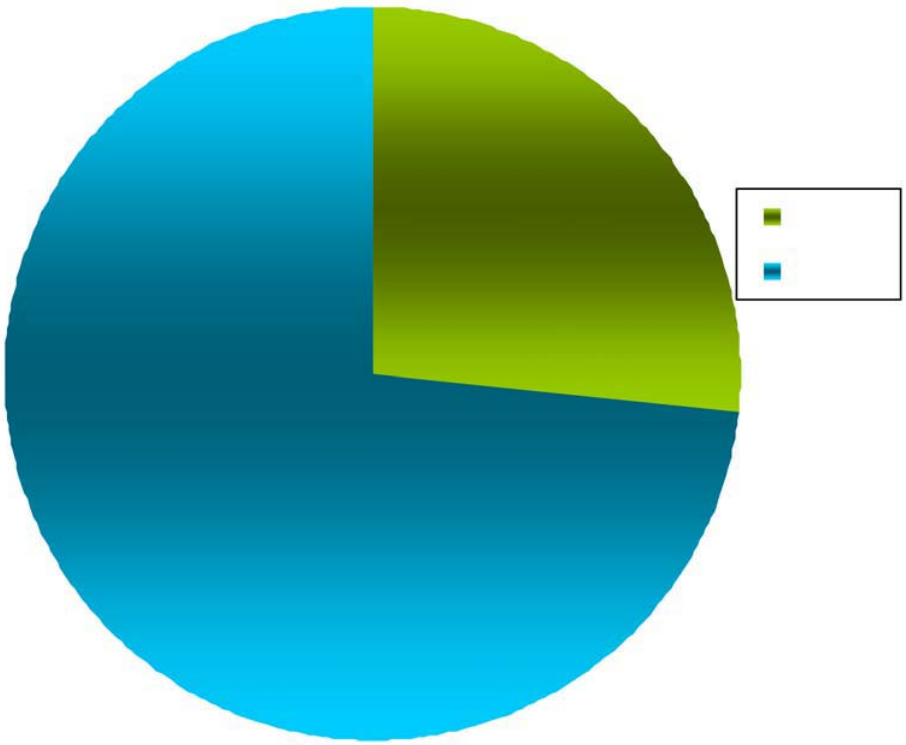


Figure 11 **: Pie Diagram Represents Distribution Of Samples According To Types Of Family**

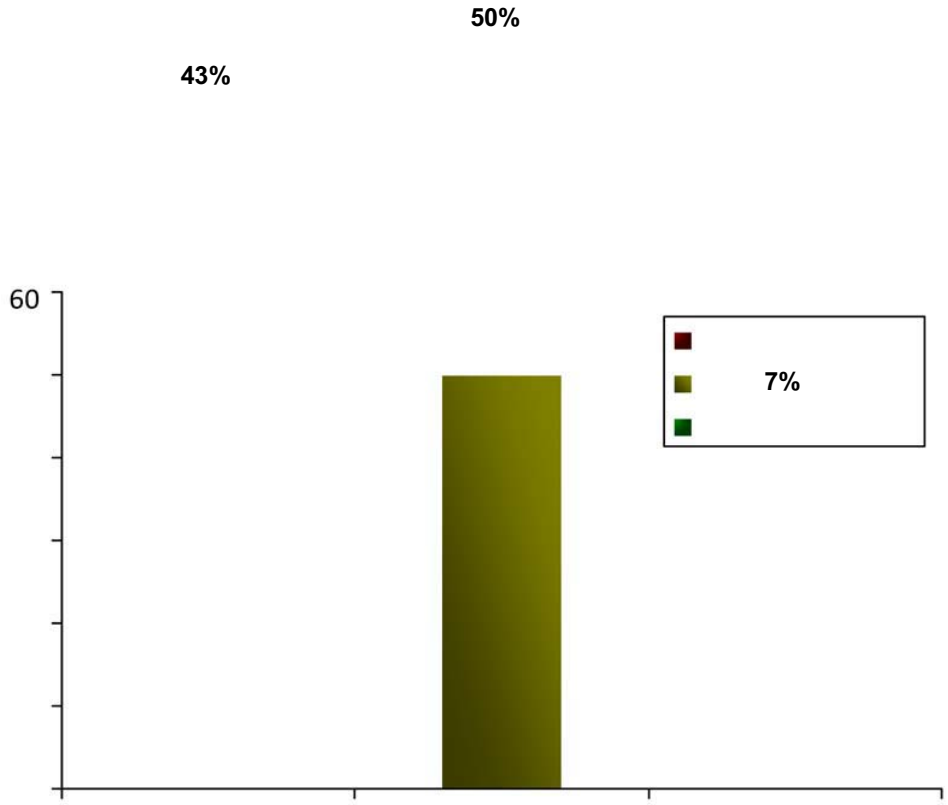


Figure 12 **: Bar Diagram Represents Distribution Of Samples According To Source Of Information**

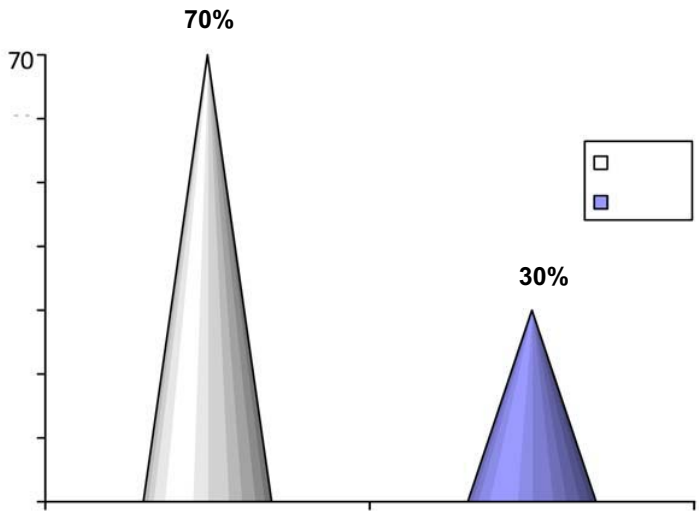


Figure 13 **: Cone Diagram Represents Distribution Of Samples According To Area Of Living**

Section B :

This section deals with effectiveness of child to child programme regarding road safety measures.

Table 2

Frequency and percentage distribution according to knowledge level N=30

Knowledge Score	Pre Test		Post Test	
	Frequency	Percentage	Frequency	Percentage
Adequate Knowledge (76-100)	-	-	17	57%
Moderately Adequate knowledge (51-75)	9	30%	13	43%
Inadequate knowledge (<50%)	21	70%	-	-

The above table2. shows the frequency and percentage distribution according to knowledge level.

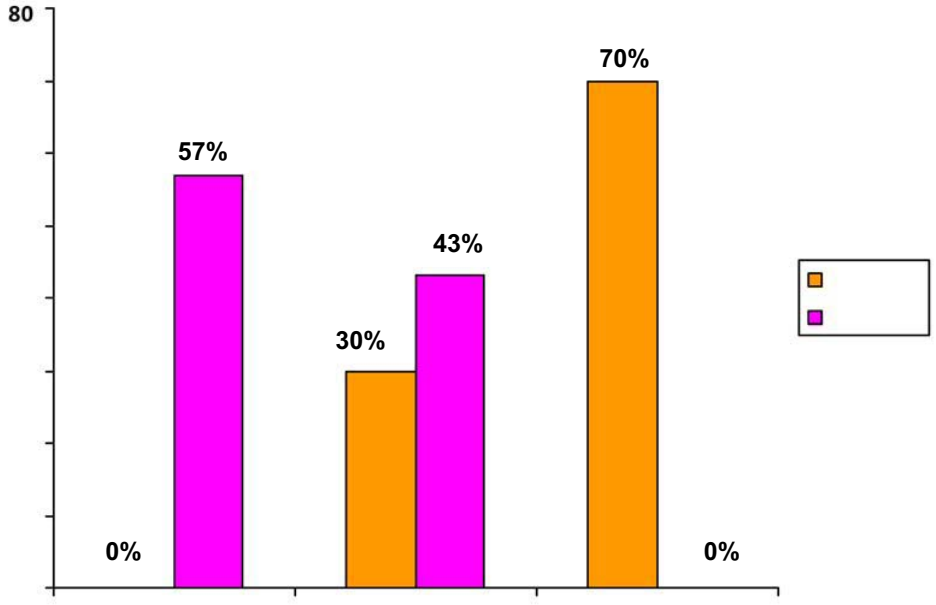


Figure 14 **: Frequency And Percentage Distribution Of Samples According To Knowledge Level.**

Section C :

This section deals with the distribution of mean and standard deviation of effectiveness of child to child programme regarding Road safety measures among Group II middle school children.

Table 3

Effectiveness of child to child programme regarding road safety measures among middle school children.

Category	Pre test		Post test		df	't' value	Table value
	Mean	SD	Mean	SD			
Knowledge Level	11.4	2.6	18.4	2.4	29	23	2.05

't' value = 23; level of significance = <0.05. The above table depicts that the effectiveness of child to child programme regarding road safety measures among middle school children. The mean score was increased after child to child programme from 11.4 to 18.4 and the standard deviation was 2.6 and 2.4 respectively. The above table reveals that the calculated value is higher than that of the table value (Table value =2.00) with df 29 and 0.05 level of significance (P<0.05).

There is significant improvement in the level of knowledge after child to child programme.

Section D :

This section deals with association between the level of knowledge and selected demographic variables such as age, sex, education of parents, occupation of parents, living area, types of family and source of information.

Table 4

Association between knowledge and selected demographic variables. N= 30

S. No.	Demographic Variables	Frequency	χ^2	df	Table value
1	Age				
	(a) 11 yrs	15	1.2	1	3.841
	(b) 12 yrs	15			
2	Sex				
	(a) Male	14	1.8	1	3.841
	(b) Female	16			
3	Education of Mother				
	(a) Primary	10			
	(b) Higher Secondary	14	0.15	3	7.815
	(c) Degree	2			
	(d) Illiterate	4			

Table Four continued ……..

S. No.	Demographic Variables	Frequency	$\chi 2$	df	Table value
4	Education of Father				
	(a) Primary	12			
	(b) Higher Secondary	14	0.005	3	7.815
	(c) Degree	2			
	(e) Illiterate	2			
5	Occupation of Father				
	(a) Daily Wages	5			
	(b) Self Employee	6	0.04	3	7.815
	(c) Private Employee	9			
	(d) Govt. Employee	1			
6	Occupation of Mother				
	(a) Daily Wages	5			
	(b) House wife	15	3.7	3	7.815
	(c) Private Employee	8			
	(d) Govt. Employee	2			
7	Family Income				
	(a) Less than 10,000	17	4.8	2	5.99
	(b) Rs. 10,000 – 15,000	10			
	(c) More than 15,000	3			
8	Types of Family				
	(a) Joint	8	1.09	1	3.841
	(b) Nuclear	22			

Table Four continued ……..

S. No.	Demographic Variables	Frequency	χ^2	df	Table value
9	Source of Information				
	(a) Parents	13	0.47	2	5.99
	(b) Teacher	15			
	(c) Family and Friends	2			
10	Living Area				
	(a) Village	21	2.0	1	3.841
	(b) Town	9			

There is no significant association between knowledge and demographic variables such as age, sex, education of parents, occupation of parents, Income, types of family, Area of living and source of information obtained at the 0.05 level of significance.

CHAPTER - V

Result and Discussion

This chapter gives a brief account of the present study including result and discussion compared with some of the relevant studies done in different settings.

The present study was undertaken to assess the effectiveness of child to child programme on middle school children regarding road safety measures in selected school at Kanyakumari District. The study was conducted in Government High school at Kesavapuram in Kanyakumari District. The pretest was conducted using structured questionnaire. After the child to child programme, the knowledge level of children was assessed by using same questionnaire. The result and discussion of the study was based on the findings obtained from the statistical analysis. Mean score was used to assess the pre and post test level of knowledge. Paired 't' test was used to test the significant difference between the pre and post test score. Chi -square was used to find out the association between the selected demographic variables with the level of knowledge on road safety measures among middle school children.

Objectives of the Study :

- To assess the knowledge of Group II middle school children regarding road safety measures before and after child to child programme.
- To determine the effectiveness of child to child programme regarding road safety measures among Group II middle school children.

- To find the association between the knowledge of group II middle school children, regarding road safety measures with selected demographic variables such as age, sex, educational status of mother and father, occupation of mother and father, ,types of family, living area and source of information.

Distribution of the study subjects based on demographic variable

Table1. Show the distribution of subjects according to the demographic variables. In this study 50% participants were 11 yrs of age and 50% were 12 yrs of age and 50% were 12 yrs of age and 47% were males and 53% were females. Regarding educational status of father 40% completed their primary education 47% higher secondary 7% Degree holders and 6%. Illiterate . Among education of mother 33% completed primary education, 13% were not educated, 47% higher secondary and 7% degree holders. Regarding occupation of father 47% Daily wages, 20% self employees 30% private employees and 3% were Government Employees. In the aspect of occupation of mother 17% daily wages, 50% house wives, 26% private employees, and 7% were Government employees. Among monthly Income of the families, 47% less than Rs. 10,000/- 33% have ranging from Rs. 10,000 – 15,000, 10% have more than Rs. 15,000. Regarding types of families 27% joint families 73% Nuclear families. In case of source of information 43% received information from parents, 50% from teacher, 7% from friends and media. Among the area of living 70% were village, 30% were Town.

Distribution of the Samples according to their level of knowledge :

Table 2. shows that the distribution of the samples according to their level of knowledge in this study, majority of middle school children (57%) had adequate

knowledge, 43% had moderately adequate knowledge. The findings showed that knowledge score was increased after the child to child programme.

To evaluate the effectiveness of child to child program of road safety measures :

Table 3. shows that the knowledge towards the road safety measures was improved from pre test to post test as mean improvement of 11.4 to 18.4. The improvement was highly significant $P<0.05$.

The research findings were congruent with D. Souza Renita Priya, N. Renuka (2013) done a study to assess the effectiveness of child to child programme on road safety education among school children at Bangalore, a study was carried out among 60 students, Purposive sampling technique was used, Semi – Structured Questionnaire methods was used for collecting data, a study finding showed that, the over all mean percentage knowledge score in the pre test was 45% and 79.69% in the post test. This study concluded that, child to child programme was significantly effective in improving the knowledge scores of school children regarding road safety.

To determine the association between the level of knowledge of road safety measures among middle school children and their selected demographic variables such as age, sex, education of parents, occupation of parents, living area, type of family and source of information.

In this study the investigator found that, there as no significant association between the level of knowledge with demographic variables regarding road safety measures among middle school children.

The findings congruent with Humayun Mirya (2012) conducted a cross – sectional study to assess the knowledge, attitude and practice regarding road safety among peri

– urban school children in Lahore, a study was carried out among 100 children in classes 4 to 10 were selected as a sample, simple random sampling technique was used. Structured questionnaire method was used for collecting the data, duration is 2 months. A study findings showed that, awareness was 85% high about increased chance of accidents by not use of helmets and 92% using mobile and the knowledge level of the children regarding traffic signal lights (94%), not to horn (79%) Zebra crossing (95%) and pedestrian prohibited (75%). the study concluded that, Good knowledge about road safety did not translate into prudent traffic practices by students.

Summarizing up of All the Research findings :

H1 : There is significant increase in the level of knowledge of middle school children after child to child programme.

H2 : There is no significant association between pre test knowledge score regarding road safety measures with selected demographic variables such as age, sex, education of child, education of parents, occupation of parents, family income, living area, type of family and source of information.

CHAPTER - VI

Summary, Conclusion, Nursing implication, Limitations And Recommendations

This chapter deal with the summary of the study and conclusion drawn from the study. It also explains the limitation of the study for different areas like nursing education, nursing practice, nursing administration and nursing research.

Summary:

The study was undertaken to assess the knowledge of middle school children regarding road safety measures in Government High School, Kesavapuram, Thiruvattar.

In the present study one group pre- test pro –test pre experimental design was used conceptual framework was used or the study was J.W.Kenny's open system model.

Objectives of the study:

- To assess the knowledge of group II middle school children regarding road safety measures before and after child to child programme.
- To determine the effectiveness of child to child programme regarding road safety measures among Group II middle school children.
- To find the association between the knowledge of middle school children with selected demographic variables such as age, sex ,education status of

mother and father, occupation of father and mother, family income, living area, types of family and source of information.

Hypotheses:

- The research hypothesis (H1) there is significant increase in the level of knowledge of middle school children after the child to child programme regarding road safety measures.
- The research hypothesis (H0),there is no significant association between pretest knowledge score with selected demographic variables such as age, sex, education of mother and father, occupation of mother& father ,family income, types of family, source of information.

The tool for the study had 2 parts

The first part of the tool consists of demographic variables. The second part of the tool consists of Structural Questionnaire regarding road safety measures. The researcher selected the subjects by purposive sampling technique. The population of the study was 30 middle school children in Govt. high school, Kesavapuram, the period of the study was one month. The collected data were analyzed based on descriptive and inferential statistics according to the above said objectives. The pilot study proved that the tool and design were appropriate.

The major findings were noted as follows:

The pretest knowledge score was11.4 and post test knowledge score was18.4. child to child programme improved the knowledge level. The value calculated for the difference of pre test and post test is statistically significant. The T value found to be

2.03 at P<0.05 level of significance. That showed there was a significant improvement in the knowledge level

Conclusion:

The study reveals that the level of knowledge on road safety measures has improved after child to child programme at 0.05 level of significance. knowledge on road safety measures will help the middle school children to get more idea regarding traffic rules and regulation, prevention of road traffic accidents and road safety measures. Based on the findings the study concludes that child to child programme will gain the knowledge on road safety measures among middle school children.

Nursing Implications:

The findings of the study reveal the implication on nursing education, nursing practice, nursing administration and nursing research.

Nursing Education:

- Pedestrian safety education can be given to the all nursing personal health education to the child's parents and children regarding road safety measures.
- The nursing students can utilize child to child approach to give health education in the schools, hospitals and community.
- Conducted and celebrated road safety week to provide awareness to public

Nursing practice:

- Teach road safety measures to the child and parents those who are getting treatment from the hospital.
- Nurses can use various technologies to capture the attention of the school children while providing health teaching on road safety.

Nursing Administrator:

The nurse administrator can encourage the nurses to provide health teaching on road safety measures by using audio visual aids, which helps to improve the level of knowledge of children.

Nursing Research:

The findings of the study motivate the nurse researches to conduct, many studies related child to child programme with other health education topics like nutritious diet, personal hygiene among middle school children.

Recommendations:

- A similar study can be conducted with different age groups of children.
- A study can be conducted with larger samples.
- A study can be conducted to compare the effect of adult to child programme on road safety measures.
- Studies can be done for long term basics to produce more outcomes.

- Child to Child approach can also be evaluated by other methods like role play, puppet show, etc.

Limitations:

The study is limited to:

- 30 samples.
- One school only
- Middle school children 11-12 years
- One month duration.

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APPENDICES : A

SREE MOOKAMBIKA COLLEGE OF NURSING

(Approved by the Government of Tamil Nadu & Recognised by Indian Nursing Council, New Delhi, Tamil Nadu state Nurses & Midwives Council, Chennai.)
Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai.

PADANILAM WELFARE TRUST, V.P.M.HOSPITAL COMPLEX, PADANILAM,
KULASEKHARAM, K.K.DIST., TAMIL NADU, PIN : 629 161.
Phone : 04651 - 280743, 280866, 280742, 280745

ETHICAL COMMITTEE CLEARANCE

Date : .....23-12-2014.....

Lr. No.

To

Mrs. Agin Navis Mary .T

I YR .M.Sc (N),

Sree Mookambika College of Nursing,

Kulasekharam.

Ref: Research Topic: A Study to assess the effectiveness of Child to child programme on road safety measures among middle school children in selected school at Kanyakumari District.

Sub: Approval of the above reference study .

Dear Agin Navis Mary .T

Ethics committee of Sree Mookambika College of Nursing, Kulasekharam reviewed and discussed the study proposal documents submitted by you related to the conduct of the above referenced study in the meeting held on 23-12-2014.

The following ethical committee Members were present at the meeting held on 23-12-2014.

NAME	PROFESSION	POSITION IN THE COMMITTEE
Prof. Mrs. Santhi Letha	Nursing	Chair Person
Dr. Kani Raj Peter	Medical	Basic Medical Scientist
Dr. J.C. Suguna	Nursing	Clinician
Adv. Mohanan	Legal	Legal Expert
Prof. Mrs.Ajitha Retnam	Nursing	Member secretary
Dr.P. Selva Raj	Management	Philosopher
Mr. Natarajan	Social	Medical Social Worker
Mrs. Latha	Lay Person	Community Person

After due ethical and scientific consideration, the ethics committee has approved the above presentation submitted by you.

Regards,

Mrs. Santhi Letha PhD (N)

Ethics Committee Chairperson,

Sree Mookambika College of Nursing,

V.P.M. Complex, Padanilam, Kulasekharam.

Date : 23-12-2014

Place :Kulasekharam

APPENDICES : B

LETTER SEEKING EXPERT OPINION FOR TOOL VALIDITY

Date:

To

Madam/ sir

Sub : M.Sc Nursing Programme - dissertation - Validation of study tool request - reg:

Ms/ Mrs. T. AGIN NAVIS MARY, a bonafide if II Year M.Sc Nursing student of Sree Mookambika College of Nursing is approaching you to obtain validation of study tool pertaining to her dissertation in practical fulfillment of the requirement for the degree of Master of Science in Nursing. **"A study to assess the effectiveness of child to child programme on road safety measure among middle school children in a selected school at Kanyakumari District."** In this regard I request you to kindly extent possible technical guidance and support for successful completion of dissertation.

I enclosed here with a check list for your evaluation

Thanking You

Yours Sincerly

PRINCIPAL

PRINCIPAL
Sree Mookambika College of Nursing
Kulasekharam-629 161

APPENDICES : C

This is to certify that, **Mrs.AGIN NAVIS MARY**, II year M.Sc (nursing) student of Sree Mookambika College of Nursing has done her data collection regarding the "A study to assess the effectiveness of child to child programme on road safety measures among middle school children" in Govt. Higher Secondary School in Kesavapuram during the month of November 2015.

GOVT. HIGH SCHOOL
Date: 27-11-15
KESAVAPURAM-629 177

27/11/15

Signature of principal
Headmaster
Govt. High School
Kesavapuram
Thiruvattar - P.O., 629 177
Kanyakumari District

APPENDICES : D

LIST OF EXPERTS FOR TOOL VALIDATION

1. **Dr. Devikala, M.D., DCH.**
   Professor of Pediatrics Department,
   Sree Mookambika Institute of Medical Science,
   Kulasekharam .

2. **Mrs. Violin Sheeba, M.Sc., (N)**
   Principal,
   Thasiah College of Nursing,
   Marthandam.

3. **Mrs. Josphine Vinitha, M.Sc., (N), M.B.A.**
   Vice Principal,
   NIMS College of Nursing,
   Neyyattinkara, Trivandrum

4. **Mrs. Malkhijah**
   Reader,
   Christian College of Nursing
   Neyyoor.

5. **Mrs. Premalatha, M.Sc., (N)**
   Associate Professor,
   Christian College of Nursing,
   Neyyoor.

6. **Mrs.Leena Joselet**
   Asso.Professor,
   C.S.I.College of Nursing,
   Karakonam.

APPENDICES : E

DATA COLLECTION TOOL ENGLISH AND TAMIL

SECTION - A

Instructions : Kindly go through each item of the Demographic variables carefully and indicate your response by placing a tick mark.

1. Age of the child

   (a) 11 yrs (b) 12 yrs

2. Sex of the child

   (a) Male (b) Female

3. Education of the Child

   (a) 6^{th} standard (b) 7^{th} standard

4. Education of the Mother

   (a) Illiterate (b) primary

   (c) Higher secondary (d) college

5. Education of the Father

   (a) Illiterate (b) primary

   (c) Higher secondary (d) college

6. Occupational of the mother

   (a) Home maker (b) Daily wagers

   (c) Private employee (d) Government employee

7. Occupational of the Father

   (a) Daily wagers (b) Self employee

   (c) Private employee (d) Government employee

8. Family income

   (a) Below Rs. 5000/- (b) Rs. 5000 – Rs. 10,000/-

   (c) Above Rs. 10,000

9. Type of the family

   (a) Nuclear family (b) Joint Family

10. Source of Information

   (a) Books & Media (b) Parents

   (c) Friends and relatives

10. Area of Living

   (a) urban (b) Rural

SECTION : B

STRUCTURED QUESTIONNAIRE

Instructions : Kindly go through each item of the Demographic variables carefully and indicate your response by placing a tick mark in the appropriate column.

1. Meaning of safety measure is
   (a) Measures taken to protect from danger
   (b) Measures taken to continue activity
   (c) Measures taken to assess the safety
2. Accident means
   (a) Unexpected events
   (b) Undesirable events
   (c) Both events
3. More changes to get accidents are
   (a) Traffic congestion
   (b) Weather and poor road conditions
   (c) Violating traffic rules
4. Human errors related to accidents are,
   (a) Use of mobile phone while driving
   (b) Drunkeen driving speedy driving
   (c) All the above
5. Stipulated age to require a minor driving license
   (a) 17 yrs (b) 19 yrs (c) 21 yrs

6. Factors substantially increase the risk of fatal crash

   (a) Driving while feeling sleepy

   (b) Driving between 02.00 am and 05.00 am

   (c) All the above

7. Importance Rules on road safety

   (a) Walk on the right side of the road

   (b) Follow zebra crossing

   (c) Speedy driving

8. Pedestrian means

   (a) Person walking on the road

   (b) Person walking on the foot path

   (c) Person walking between traffic

9. Safe place to cross the road

   (a) pedestrian crossing

   (b) Corner of the road

   (c) Running across the road

10. Green cross code rules are

    (a) Think, stop, look and listen

    (b) Stop, wait, look and listen

    (c) Look, listen, thin and wait

11. Traffic light signal colours are

    (a) Red, Yellow, Green

    (b) Blue, Red, Green

    (c) Yellow, Green, Black

12. Traffic light colour signals to cross the road it indicates the colour of

    (a) Red

    (b) Green

    (c) Orange

13.  is the symbol of

    (a) School Zone

    (b) Speed breaker

    (c) Two way Road

14. Green traveler means

    (a) Cycling

    (b) Motor vehicle riding

    (c) Walking

15. Safer side of the walking on the road

    (a) Left side

    (b) Right side

    (c) Both side

16. Use of speed breaker near school

    (a) Reduce the speed of vehicles

    (b) Children and Senior citizen cross the road easily

    (c) All the above

17. Emergency telephone number used in our state is

    (a) 100 (b) 108 (c) 101

18. Various road signals and symbol helps to

    (a) Precent accident

    (b) Prolect yourself

    (c) Reduce chance of getting accident

19. Zebra Crossing means
    (a) Waiting to cross the road
    (b) Crossing the road, where black and white stripes are painted onto the road
    (c) Cross the road between parked car
20. Use of wear helmet while riding bicycle or motor cycle
    (a) Protect yourself
    (b) Avoid crash
    (c) prevent brain injury
21. Mandatory use of safety equipments acc.
    (a) Seat belts
    (b) Helmets
    (c) Traffic rules
22. Road traffic accidents can be prevented by
    (a) Follow road safety rules
    (b) Follow zebra crossing
    (c) Both
23. Road safety week in India
    (a) 10^{th} Nov – 16^{th} Nov
    (b) 10^{th} Jan – 16^{th} Jan
    (c) 9^{th} Oct – 16^{th} Oct
24. Impacts of Road Traffic injuires about the human beings
    (a) Tangible cost
    (b) Intangible costs
    (c) Death
25. Decade of Action for Road safety 2011 – 2020 goals are
    (a) Reduce the road – traffic accident
    (b) Reduce the fatalities due to RTA

(c) Improve the road safety management.

TÏ§ : ı

R² U²R Ï±l×Ls

1. ÏZkûR«u YVÕ

   (a) 11 YVÕ (b) 12 YVÕ

2. ÏZkûR«u Tô]m

   (a) Bi (b) ùTi

3. ÏZkûR«u Lp®jRÏ§

   (a) 6-Bm YÏl× (b) 7-Bm YÏl×

4. Rô«u Lp®jRÏ§

   (a) T¥lT±Ü CpûX (b) BWmT ¨ûX T¥l×

   (c) EVo¨ûX T¥l× RÏ§ (d) Lpí¬ T¥l× RÏ§

5. RkûR«u Lp®jRÏ§

   (a) T¥lT±Ü CpûX (b) BWmT ¨ûX T¥l×

   (c) EVo¨ûX T¥l× RÏ§ (d) Lpí¬ T¥l× RÏ§

6. Rô«u ùRô¯p

   (a) CpXjRW£ (b) ÑV ùRô¯p

   (c) R²Vôo F¯Vo (d) AWÑ F¯Vo

7. RkûR«u ùRô¯p

   (a) á úYûX (b) ÑVùRô¯p

   (c) R²Vôo F¯Vo (d) AWÑ F¯Vo

8. ÏÓmT YÚUô]m

   (a) ì. 10,000-dÏ ¸r (b) ì. 10,000 - 15,000

   (c) ì, 15,000-dÏ úUp

9. ÏÓmT YûL

   (a) áhÓd ÏÓmTm (b) R²dÏÓmTm

10. RLYp BRôWm

    (a) ùTtú\ôo (b) SiToLs Utßm E\®]oLs (c) B£¬VoLs

11. YôÝm TÏ§

    (a) ¡WôUm (b) SLWm

TÏ§ : II

§\ûULû[YûWVßdÏm úLs®Ls

NôûX ®TjÕ TôÕLôl× Øû\Ls NmTkRUô] 25 ®]ôdLû[Es[Pd¡V TÏ§

1. TôÕLôl× SPY¥dûL GuTÕ
   (a) BTj§ÚkÕ TôÕLôjRp
   (b) ùNVûX ùRôPW SPY¥dûL GÓjRp
   (c) TôÕLôlûT U§l©P SPY¥dûL GÓjRp
2. NôûX ®Tj§u ùTôÚs
   (a) G§oTôWôR ¨LrÜ
   (b) ®ÚmT RLôR ¨LrÜ
   (c) CWiÓ ¨LrÜLÞm
3. NôûX ®TjÕdLs A§LUôL SPdL Yônl×Ls
   (a) LôX ¨ûXÙm, úUôNUô] NôûXÙm
   (b) NôûX ®§Lû[ÁßYÕ
   (c) úUtá±V Aû]jÕm
4. NôûX ®TjÕ SPlTRtÏ NôRLUô] U²R RYßLs
   (a) YôL]m KhÓm úTôÕ ûLúT£ ETúVô¡jRp
   (b) úTôûR«p Utßm úYUôL YôL]m KhÓRp
   (c) úUtLiP Aû]jÕm
5. YôL] KhÓSo E¬Um ùT\ Ïû\kR ThN YVÕ YWm×
   (a) 17 YVÕ (b) 19 YVÕ (c) 21 YVÕ

6. ®TjÕdLs L¦NUôL A§L¬dL ãr¨ûXLs

   (a) çdL LXdLj§p YôL]m KhÓRp

   (b) A§LôûX 2 U¦ ØRp 4 U¦dÏs YôL]m KhÓm úTôÕ

   (c) úUtá±V CWiÓm

7. Ød¡V NôûX TôÕLôl× ùLôsûL

   (a) NôûX«u YXÕ×\UôL SPjRp

   (b) ®¬úLôÓ ©uTtßRp

   (c) úYLUôL KhÓRp

8. TôR Nô¬Ls GuTÕ

   (a) NôûX«p SPdÏm U²Ru

   (b) SûPTôûR«p SPdÏm U²Ru

   (c) úTôdÏYWjÕ ùS¬Np SPdÏm U²Ru

9. NôûXûV LPdL TôÕLôlTô] CPm

   (a) TôR Nô¬LÞdLô] CPm Y¯ LPjRp

   (b) NôûX«u KWUô] CPm Y¯ LPjRp

   (c) NôûX«p ÏßdLôL K¥ LPjRp

10. Y¬úLôÓ ùLôsûL GuTÕ

   (a) NôûXûV LPdL Lôj§ÚjRp

   (b) NôûX«u ÏßdúL YûWVlThÓs[Lßl× Utßm ùYsû[¨\ úLôÓLs

   (c) ûYdLlThÓs[YôL]j§tÏm NôûXdÏm CûPúVVô] TÏ§

11. TfûN ÏßdÏ úLôhÓ ùLôsûL GuTÕ

    (a) úVô£, ¨X, Tôo, Utßm LY²

    (b) ¨p, Lôj§Ú, Tôo Utßm LY²

    (c) Tôo, LY², úVô£ Utßm Lôj§Ú

12. úTôdÏYWjÕ NªgûN«u ¨\eLs

    (a) £Yl×, UgNs, TfûN

    (b) ¿Xm, £Yl×, TfûN

    (c) UgNs, TfûN, LÚl×

13. NôûXûV LPlTRtÏ úTôdÏYWjÕ NªgûN«u GkR ¨\m Ï±dÏm

    (a) £Yl× (b) TfûN (c) UgNs

14.  Ï±lTÕ

    (a) Ts°dáP TÏ§ (b) úYLjRûP (c) CÚY¯f NôûX

15. ÑtßfãZûX Tô§dLôR TVQm GuTÕ

    (a) ûNd¡s KhÓRp

    (b) YôL]m KhÓRp

    (c) SPjRp

16. NôûX«p SPlTRtÏ Ht\ TdLm

    (a) CPlTdLm (b) YXlTdLm (c) CWiÓ TdLØm

17. Ts°«u AÚúL úYLjRûP«u TVu

    (a) YôL]j§u úYLjûR Ïû\dL

    (b) ÏZkûRLÞm, Ø§úVôoLÞm G°RôL NôûXûV LPdL

    (c) úUtá±V Aû]jÕm

18. SUÕ Uô¨Xj§u AYNW LôX AûZl× Gi

(a) 100 (b) 108 (c) 101

19. TpúYß YûLVô] NôûX Ï±ÂÓL°u TVu

(a) NôûX ®TjûR RÓdL

(b) SmûU SôUúU LôlTôt±d ùLôs[

(c) CWiÓm

20. CÚNdLW YôL]m KhÓmúTôÕ RûXLYNj§u TVu

(a) Ut\YoLû[TôÕLôdL

(b) êû[LôVjûR RÓdL

(c) ®TjûR RÓdL

21. ªL Ød¡VUô] NôûX ®TjÕ TôÕLôl× ETLWQeLs

(a) CÚdûL ThûP Utßm RûXLYNm

(b) NôûX Å§

(c) úUtá±V Aû]jÕm

22. NôûX ®TjÕ CR]ôp R®odLlTÓ¡\Õ

(a) NôûX ®§ûV ©uTtßRp

(b) Y¬ úLôûP ©uTtßRp

(c) CWiûPÙm LûP©¥lTRôp

23. Ck§Vô®p NôûX TôÕLôl× YôWm

(a) SYmTo 10 ØRp 16 YûW

(b) _]Y¬ 10 ØRp 16 YûW

(c) AdúPôTo 9 ØRp 16 YûW

24. U²RoLû[R®W NôûX úTôdÏYWjÕ LôVeLs EiPôdÏm ®û[ÜLs

(a) UÚjÕY ùNXÜLs

(b) EPp, U] Ã§Vô] LxPeLs

(c) YôL] úNReLs

25. TjRôiÓ LôX (2011 - 2020) NôûX TôÕLôl©u CXdÏ

(a) NôûX ®TjûR Ïû\jRp

(b) ©Wôk§V úTôdÏYWjÕ BûQVj§u êXm C\l×Lû[Ïû\jRp

(c) NôûX TôÕLôlûT úUmTÓjÕRp

APPENDICES : F

EVALUATION TOOL CHECK LIST

Name of the expert :

Designation :

College :

Respected Madam / Sir,

Kindly go through the demographic variables, and structured questionnaire, please give your valuable suggestions regarding accuracy, relevancy, and appropriateness of the content. If there is any suggestions or comments, please mention in the remarks column.

PART : I

CHECK LIST FOR VALIDATING THE TOOL

Respected Madam/ Sir,

Kindly go through the socio – demographic variables, questionnaire and valuable suggestions regarding appropriateness of the content. If there is any suggestions or comments please mention in the remarks column.

Q.No.	Items		Remarks
Section : A	Accepted	Not Accepted	
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

PART : II

Questionnaire

Q. No.	Items		Remarks
	Accepted	Not Accepted	
1.			
2.			
3.			
4.			
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25.			

APPENDICES: G

INTERVENTION

ROAD SAFETY MEASURES

INTRODUCTION

Every year the lives of almost 1.24 million people are cut short as a result of a road traffic crash. Between 20 to 50 million more people suffer non – fatal injuries with many incurring a disability as a result of this injury. Road safety is a collect effort of the government and people.

Meaning of safety measure :

A measures taken to increase or ensure safety or protection from danger.

Road traffic safety refers to the methods and measures for reducing the risk of a person using the road network being killed or seriously injured.

Meaning of Accident :

It is an unplanned, unexpected and undersigned (not purposefully caused) event which occurs suddenly and causes injury or loss, a decrease in value of the resources or an increase in liabilities.

Causes of Road Accident :

Road accident is most unwanted thing to happen to a load user, through they happen quite often. Most of the road users are quite well aware of the general rules

and safety measures while using roads but it is only the laxity on part of road users. Which cause accidents and crashes. Main causes of accidents are due to human errors.

Some of the common behaviour of humans which results in accident.

- Over speeding
- Drunken Driving
- Distraction to Driver
- Red Light Jumping
- Avoiding safety guards like seat belts and helmets

Unsafe factors :

- Unsafer road environment
- Insufficient driver knowledge
- Failure to recognize danger
- Improper thinking
- Wrong driving habits.

Over Speeding :

Most of the fatal accidents occur due to over speeding. It is a natural psyche of humans to excel. Increase in speed multiple the risk of accident and severity of injury during accident. A vehicle moving on high speed will have greater impact during the crash and hence will cause more injuries.

Drunken Driving :

Drinking and driving increases both the risk of a crash and the givehood that death or serious injury will result. A little quantity of alcohol can have a very big influence on your driving ability. It is fatal to drive under the influence of alcohol. For curry increase of 0.05 blood alcohol concentration the risk of accident doubles.

Distraction to driver :

Though distraction while driving could be minor but it can cause major accidents. Distraction could be outside or inside the vehicle the major distraction is taking on mobile phone while driving. Some of the distractions on road are,

- Adjusting mirrors while driving
- Stereo (Radio in vehicle)
- Animals on the road
- Banners and Bill boards

Red Light Jumping :

It is a common sight at road intersections that vehicles cross without caring for the light.

Avoiding safety gears like seat belts and helmets :

Use of seat belt in four wheeler is now mandatory and not wearing seat belt and helmet invites penalty.

MAIN RISK FACTORS FOR ROAD TRAFFIC INJURIES :

Factors influencing exposure to risk :

- Economic factors such as level of economic development and social desperation.
- Demographic factors such as age and sex
- Mixture of high speed motorized traffic with valuable road users.

Factory influencing crash involvement :

- In appropriate and excessive speed.
- Presence of alcohol, Medicinal or recreational drugs.
- Fatigue
- Travelling in darkness
- Vehicle factors – such as braking, handing & maintenance
- Poor eyesight or road users.

Factors influencing wash severity :

- Human tolerance factors
- Inappropriate or excessive speed
- Set beats and child restraints not used.
- Presence of alcohol and other drugs.

Factors influencing post – crash outcome of injuries :

- Delay in detecting cash and in transport of those injured to a health facility.
- Presence of fire & resulting from collision.
- Lack of appropriate care in hospital emergency rooms.

Classification of Accidents :

Road accidents can be classified in the following manners.

Classification by person by injury severity :

There are four mutually exclusive categories for classification of injured person.

- Person with fatal injury
- Person with Grievous injury
- Person with minor injury
- Person with no injury.

Classification of Road vehicles by damage security :

Motor vehicles : Categoreis by severity of damage are,

- Disability damage to motor vehicle
- Functional damage to motor vehicle
- Other motor vehicle damage
- No damage

Other Road vehicles :

- Disabling damage to other road vehicle.
- Functional damage to other road vehicle
- Other – road – vehicle damage
- No damage

Classification by number of vehicles :

The categories for classification of road vehicle accidents by number of vehicles are,

- Single vehicle accident
- Two vehicle accident
- Three vehicle accident

Colloision Accident :

1. Colloision involving pedestrian
2. Colloision involving motor vehicle accident
3. Colloision involving packed motor vehicle
4. Colloision involving bicycle
5. Colloision involving animal

6. Colloision involving fixed object

Non – Colloision Accident :

1. Over turning accident

2. Other

3. Avoid walking through traffic as it can jeopardize your safety and that of other road users.

FACTORS OF ROADS CONTRIBUTE IN ACCIDENTS

Drivers	-	Over speeding, rash driving, violation to rule, failure to understand sings, fatigue, alcohol.
Pedestrian	-	Carelessness, illiteracy, crossing at wrong places.
Vehicles	-	Failure of brakes or steering, tyre burst, insufficient headlights.
Road conditions	-	Potholes, damaged road, eroded road merging of rural roads with highways, illegal speed breakers.
Weather conditions	-	Fog, snow, heavy rainfall, wind storms, hail storms.

RULES AND REGULATIONS :

Rules for Pedestrians :

General guidance :

1. Footways or foot paths (including any path along the side of the road) should be used if provided.

2. There is no footway or footpath walks on the right hand side of the road. So we can see oncoming traffic.

3. Wear or carry something light coloured bright or fluorescent in por day light conditions. When it is dark, use reflective materials (example armbands, waistcoats, jacket) which can be seen by divers using headlight.

4. Young children should not be out alone on the footway, foot path or road, when taking children out, keep between them and the traffic and hold their hands firmly.

5. Taught about green cross code, to the children and should not be allowed out alone until they can understand & use it properly.

6. Never cross behind a vehicle that is reversing, showing white reversing lights or soundary or warning.

7. Follow zebra crossing to cross the road. Traffic lights may be special signals for pedestrians.

8. Some situations needed extra care : If an ambulance, fire engine, police or any other emergency vehicle approaches using flashing the blue light, headlights, keep off the road.

Pedestrian Crossing :

A safe place to cross the road is at a pedestrian crossing, there are 6 types of pedestrian crossings.

1. Pelican crossings
2. Zebra crossing
3. Puffin crossing
4. Toucan crossing
5. Pegasus crossing
6. Traffic islands

Pelican Crossing :

It is a crossing controlled by traffic lights. There are often in busy town and are activated by the person waiting to cross the road, Pelican crossings use,

A red man to tell – when to stop

A green man to tell – when it is safe to wake

Flashing green man to tell – when it is not safe to cross

It can also help blind and partially sighted pedestrians by sounding a bleeper when it is safe to cross.

Zebra Crossing :

A zebra crossing is a crossing where black and white stripes are painted onto the road and there is a flashing orange beacon on either pavement. These crossings give pedestrians the light of way.

Puffin crossing :

Puffin crossings are similar to pelican crossings but instead of green and red man being on the other side of the road. They are above a ‘wait’ box. The puffin crossing is different in that it known when some one is waiting to cross it also knows when they have reached the other side.

Toucan Crossing :

It’s also known as two can cross, because pedestrians and cyclist can both cross.

Pegasus crossing :

These crossings are special crossings for house eiders where the push button is placed higher up, so the rides can reach it. The red and green man is replaced by a red and green horse.

Traffic Island Crossing :

Traffic islands, also known as pedestrian refuges, are crossing points found in the middle of wider roads where there is no crossing point. This helps to narrow the road giving you a safe area in which to wait before crossing the other half of the road.

Green cross code : The green cross code is a checklist of brules, follow when crossing the road.

Think	-	Find a safe place to cross
Stop	-	Stand on the pavement near the kerb.
Look and listen	-	Look all round for traffic, and listen
Wait	-	If traffic is coming, let it pass.
Look and listen again	-	When it's safe, walk straight across the road.
Arrive alive	-	Keep looking & listening for traffic which you cross.

TRAFFIC SYMBOL

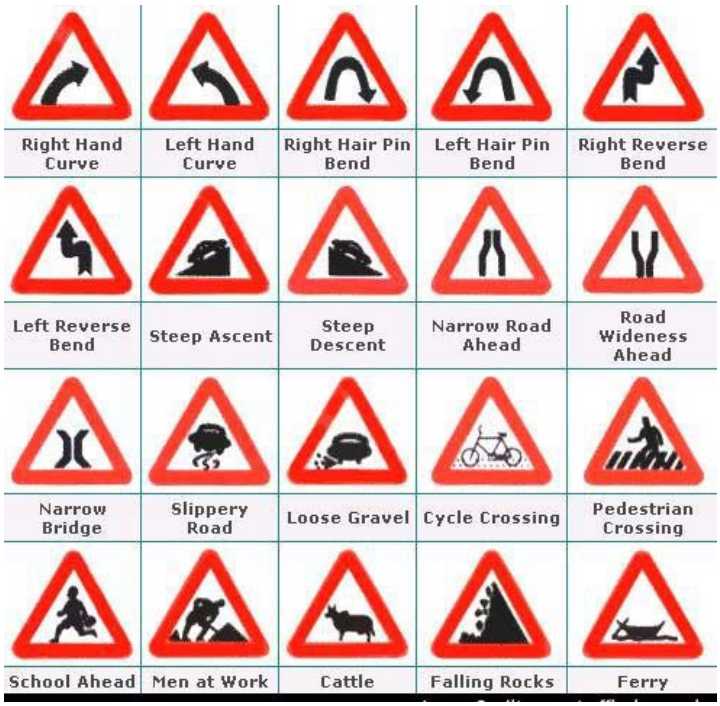
Red - Stop

Green - To walk

Yellow- To slow

Road signs of Traffic signal :

Traffic signs and road markings are silent speakers to the road users. Every road users should know the making and signs of on the road and meaning there of.



Prevention of Accidents :

It is better to be safe than to be sorry. Prevent accident by taking all the precautions we can.

- Strict punishment should be enforced by government, if a person drives in over speed.
- Tamper proof speed controllers should be installed in all vehicles.
- Two wheelers should not exceed 50 – 70 km/h.
- All the rules should be followed properly by the people.

2. Improving Road conditions :

Government should pay more attention to the road surface and lighting at night.

3. Road User :

Driving tests, for issue of driving license is to be made more stringent and fool proof.

- Lower age limit for two wheeler and heavy vehicle license should be raised to 2%.
- Helmet should be made compulsory by law in all states.
- Helmet should be made compulsory for back seat riders also.

4. Avoid drugs and alcohol while driving :

Drugs and alcohol can slow down reflexes, disrupt accurate judgement, and cause mental alertness to dip.

5. Strict enforcement of existing traffic rules :

6. Children below a certain age should not be permitted to do cycling in busy rody / roads where heavy vehicle are plying.

7. Safety awareness :

Safety awareness should begin from childhood, as it is difficult to impart awareness to a grown up human.

Video and computer games that stimulate racing should be banned by the government or discouraged by parents as it will develop rawing habit in children.

8. Road safety Day / Road safety week :

Should be observed in all schools, every year. A competitions on Road safety tips, slogans, essay, painting etc should be conducted for various categories of students.

9. Obey traffic rules :

Traffic rules have been designed with safety for most in mind. It takes into account safety for all, including pedestrians. Zebra crossing should be provide at appropriate places for crossing the road safety.

10. Make use of the existing Road Safety devices.

11. Increae the minimum age for Bus and Truck deives.

- School buses should be painted with bright yellow color in all state.
- Stipulate minimum experience & maximum age limit for the drives of school buses.

12. Environmental safety :

Street dogs should be eliminated completely.

Impacts of Road Traffic Injury :

- Damage to the vehicle
- Tangible costs (repair costs, medical treatment, insurance costs)
- Intangible costs (pain, suffering)
- Hospitalization
- Handicap, Death

TEN STRATEGIES FOR KEEPING CHILDREN SAFE ON THE ROAD

Controlling Speed :

Speed is a contributing factor is around one – third of all fatal road traffic cashes in high – income countries. Long, straight roads which pass by schools, residences, and business and which facilitate travel at high speed place children at significant risk.

Reducing vehicle speed is paramount to protecting children on the roads. The following strategies can reduce speed :

- ❖ Setting and enforcing speed limits appropriate to the function of each road.
- ❖ Setting and enforcing a maximum speed limit of 30 km per hour on roads with high concentration of pedestrians.
- ❖ Enforcing speed limits through the use of automatic speed cameras.

2. Reducing drinking and Driving :

A major risk to children as pedestrians, cyclist and passengers in vehicles are people who drink and drive. Consuming alcohol before driving increases not only the chance of road traffic crash occurring, but also likelihood that death or serious injury will result.

3. Using helmets for bicyclists and Motorcyclists :

For children, wearing a helmet is the single most effective strategy for reducing the risk of injury to the head while riding bicycles or motorcycles. For cyclist of all ages, the appropriate use of helmet decreases the risk of a head injury by 69% while for motorcyclists of the ages the appropriate use of a helmet decreases the risk of a head injury by 69% while for motorcyclists of all ages. The appropriate use of a helmet reduces the risk of death by 40% and the risk of serious head injury by more than 70%.

4. Restraining children in vehicles :

For children who are occupants of a vehicle, a Lange of restraints in available to protect them. These include infant car seats, child car seats, booster seats and seat – belts and their use depends on the age, weight and height of the child. As compared to using seat – belts alone, booster seats are estimated to reduce by 59% the risk of children again 4 to 7 yrs sustaining significant injures during a road traffic crash.

Restraints reduce the like hood of a road traffic fatality by approximately 70% among infants and between 54% and 80% among young children.

5. Impacting children's ability to see and be seen :

Seeing and being seen are fundamental prerequisites for the safety of all people who travel the roads, but are particularly important for children due to their particular volubility.

- ❖ Wearing white or light – coloured clothing
- ❖ Using retro – reflective strips on clothing or articles such as backpacks.
- ❖ Using headlamps on bicycles as well as front, rear and wheel reflectors.
- ❖ Street lighting.

6. Enhancing Road Infrastructure :

Historically, roads have been built primarily for the benefit of motorized transport, with little consideration of the needs of the communities they pass through, building new and modifying existing road infrastructure with a concern for safety would enhance the livability of these communities and reduce risks to children from road traffic crashes.

Strategies to enhance road infrastructure include :

- ❖ Implementing physical measures such as traffic lights, roundabouts, speed humps, cross walls.
- ❖ Separating different types of traffic and road users through mechanisms such as raised pavements for pedestrians, dedicated lanes for pedestrians and cyclists, and median basics to separate vehicle traffic moding in different desitions.

7. Adapting vehicle design :

Optimal vehicle designs and standards can contribute to the safety of children both inside and outside a vehicle, including those on bicycle and motorcycles.

8. Reducing risks for young drivers :

In some countries, children as young as 15 yrs old are allowed to drive. Young, Novice drivers account for a large number or road traffic crashes globally. Contributing factors include speeding, drinking or drugs and driving and texting and driving. Graduated driver licensing schemes which implement the following strategies can have major impact on the safety of children.

- ❖ Lowering BAC levels for young or novice drivers.
- ❖ Installing alcohol interlock systems in the vehicles of people convicted of drinking and driving.
- ❖ Restricting right time driving and driving with passengers.

9. Providing appropriate care for injured children :

While strengthening a country's emergency care and rehabilitation services the best approach to improving outcomes for all road traffic victims'.

- ❖ Providing care taker and teacher education on safe immediate stabilization of injuries, and establishing advances plans for activating formal or informal systems to transport injured children to care facilities.
- ❖ Making hospitals as child friendly as possible to minimize additional trauma for injured children.

10. Supervising children around roads :

Young children have a limited capacity to evaluate risk as such parents and other caregivers can play an important role in helping the children in this care to interpret what is happing around them.

Decade of Action for Road Safety 2011 – 2010 :

Road traffic injuries are a processing global health and development concern. Approximately 1-3 million people die on the world's roads each year and up to 50 million people sustain non – fatal insures.

In march 2010, the united Nations General Assembly tool steps to address this enormous global problem by proclaiming the Decade of for Road safety 2011 – 2020. The goal of the Decade is :

"To stabilize and then reduce the forecast level of Road traffic fatalities around the world" by 2020.

Global plan for the Decade of Action.

The Categories, or 'Pillars' of activity are :

- Building Road safety Management capacity
- Improving the safety or road infrastructure and broader transport networks.
- Further developing the safety of vehicles
- Enhancing the behaviour of road users.

- Improving post crash care